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Parental Acculturation, Parenting Practices, and Adolescent Depressive Symptoms in Chinese American Families

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Parental Acculturation, Parenting Practices, and Adolescent Depressive Symptoms in Chinese American Families

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Dedication

To my parents, my brother, and my sister

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Parental Acculturation, Parenting Practices, and Adolescent Depressive Symptoms in Chinese American Families

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Chinese-American parents are parenting within two cultures: the mainstream American culture and their heritage Chinese culture. This study examined parental cultural orientations toward the American and Chinese cultures, and the implications for parenting practices among Chinese-American families. Parenting dimensions examined were both culture-general measures (parental warmth, punitive parenting, non-democratic parenting) and culture-specific measure (parental endorsement of family obligations).

Data came from a two-wave survey of about 400 Chinese-American families (one target adolescent, mother, and father). First, within each wave, the study examined the concurrent relationships between parenting practices and adolescent depressive symptoms. Second, this study examined, concurrently and longitudinally, whether parental cultural orientations were associated with parenting practices both directly and indirectly through two mediating factors: parents' bicultural management difficulty and depressive symptoms. Analyses were conducted separately for mothers and fathers.

First, study findings showed that parenting practices characterized by higher levels of warmth, strong endorsement of family obligations, and lower levels of punitive and non-democratic behaviors were associated with fewer depressive symptoms in adolescents. Second, the study demonstrated significant direct relationships between both Chinese and American orientations and parenting practices. While American orientation was related to effective parenting (more warmth, low punitiveness, low non-democratic parenting), Chinese orientation was related to effective parenting (more warmth, low non-democratic parenting, strong endorsement of family obligations) as well as ineffective parenting (high punitiveness). This study also showed that parents' bicultural management difficulty and depressive symptoms mediated the relationships between acculturation and culture-general parenting measures (warmth, punitiveness, and non-democratic parenting). It was through these two mediators (bicultural management difficulty and parental depressive symptoms) that (1) Chinese orientation was related to less warmth, high punitive and non-democratic parenting and (2) American orientation was related to more warmth, low punitive and non-democratic parenting. Lastly, there was some evidence of longitudinal relationships (father's American orientation at w1 predicted more warmth at w2; mother's American orientation at w1 predicted low punitiveness at w2 through the mediating factors of bicultural management difficulty and depressive symptoms at w1).

The study suggests that parental psychological maladjustment is a promising area for interventions to promote parenting and adolescent development among Chinese-American families.

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STATEMENT OF THE PROBLEM

A large body of research has established the importance of parenting practices in children's development. However, the bulk of parenting research has been conducted using middle-class, White samples. Ethnic minority children and parents are under-represented in the field of child and family research. This is especially true for immigrant parents and their children in the U.S. (Parke & Buriel, 1998), despite the fact that 1 out of every 5 children under the age of 18 in the U.S. in 2002 was a child of an immigrant (U. S. Census Bureau, 2003a).

Most immigrants to the U. S. have come from Latin America and Asia (U. S. Census Bureau, 2003a). Asian Americans represent 25% of the immigrant population in the U. S. (U. S. Census Bureau, 2004), and their numbers are increasing at a rapid pace (Zhou, 2004). Nevertheless, relatively little is known about the lives of Asian parents and their children in the United States. This study focuses on the largest group of Asian immigrants in the U. S.: Chinese immigrant families (U. S. Census Bureau, 2003b). Specifically, the study aims to examine parenting practices and adolescent development during the process of acculturation in this population.

Research on Chinese American adolescents has focused predominantly on their educational outcomes (Kim & Ge, 2000). Few studies have examined socio-emotional development in this population. This gap in the research needs to be addressed, because, based on extant research in Western societies, adolescence is a critical developmental period for socio-emotional development (Steinberg & Morris, 2001). For example, depressed mood in adolescence is a serious mental health concern because of its prevalence and growth during this developmental period (Graber, 2004). A few studies have found that Chinese American adolescents show levels of depression similar to, or

even higher than, those found in European American adolescents (Chiu, Feldman, & Rosenthal, 1992; Jose & Huntsinger, 2005; Kim & Chun, 1993; Roberts, Roberts, & Chen, 1997). As yet, the knowledge of what predicts depressed mood in Chinese American adolescents is rather limited. In light of the overarching importance of family in Chinese culture, several studies have examined parenting practices and their implications for adolescent depressed mood in Chinese contexts. Findings indicate that higher levels of parental warmth, involvement and firm control, and democratic discipline are associated with lower levels of depressed mood in Chinese American adolescents (Chiu et al., 1992; Kim & Ge, 2000). Thus, strategies for intervention that aim to promote socio-emotional development in Chinese adolescents in the U. S. might begin by addressing parenting behaviors. To successfully design such an intervention, it is essential to have an understanding of how parenting behaviors are associated with Chinese adolescents' adjustment, along with an understanding of the possible correlates of parenting behaviors in Chinese immigrant parents.

This study on Chinese parenting and adolescent development is guided by Szapocznik & Kurtines' (1993) model for the embeddedness of contexts within a culturally pluralistic milieu. According to this model, developing individuals are embedded within a family, which, in turn, is embedded with a context of cultural diversity. The importance of socio-cultural milieu has been widely acknowledged in development and family science. Parenting behaviors represent a primary and proximal developmental context for children. In turn, parenting practices are influenced by the particular culture in which a family is embedded (Bornstein, 1991). According to Szapocznik & Kurtines (1993), a limitation to research on immigrant families is the exclusive focus on immigrants' culture of origin. In reality, however, the cultural context of immigrants in the U. S. consists of two cultures: mainstream American culture and

heritage culture. While these different cultures may not be completely incompatible, there may exist many differences, ranging from language use, food preference, interpersonal relationships, to value systems. Szapocznik & Kurtines (1993) emphasize that research on immigrants should take into account the diverse and heterogeneous nature of their cultural context. This emphasis is central to their model.

The essential aspect of the culturally diverse context of immigrants is their acculturation experience, i.e., the ways in which they adapt to the mainstream culture while maintaining connections to their heritage culture. While Szapocznik & Kurtines' (1993) research examines parent-child disparity in acculturation experience, the current study examines what role acculturation plays in parenting behaviors of Chinese immigrant parents.

Chinese parents residing in the U. S. face the challenges of parenting in two different cultural contexts. Therefore, it is possible that these Chinese American parents' parenting practices are subject to influences from both cultures. To use an example involving a different ethnic group, for Mexican American mothers, higher levels of acculturation towards American culture were linked to lower use of inconsistent discipline, which was considered more normative of European American parenting than of Mexican parenting (Dumka, Roosa, & Jackson, 1997). Thus far, research on Chinese parents' acculturation and their parenting (Chiu, 1987; Lin & Fu, 1990) has used immigration status as a proxy measure of their acculturation level. Studies that use direct measures of acculturation are needed to provide an understanding of parental acculturation's impact on the parenting practices of Chinese immigrant parents.

To gain a more complete picture of acculturation's role in parenting, other important areas that warrant attention are parental acculturative stress and parental psychological well-being, and their implications for parenting. As a salient aspect of the

acculturation experience, acculturative stress refers to psychological distress resulting from contact with two cultures, especially when there is a large distance between the two cultures in question (Berry, 2006; Berry, Kim, Minde, & Mok, 1987). One significant acculturative stressor is bicultural management difficulty, i.e., difficulty managing and balancing the host and heritage cultures. Research shows that, higher levels of acculturation towards the host culture are related to lower levels of conflict and difficulty in balancing the two cultures, while higher levels of acculturation towards the heritage culture are related to higher levels of conflict and difficulty in balancing the two cultures (Benet-Martínez & Haritatos, 2005; Benet-Martínez, Lee, & Leu, 2006; Benet-Martínez, Leu, Lee, & Morris, 2002; Cheng, Lee, & Benet-Martínez, 2006). Bicultural management difficulty may bring about a reduction in psychological well-being of the acculturating individuals (Benet-Martínez et al., 2002; Phinney & Devich-Navarro, 1997). Moreover, given that parental psychological well-being is positively associated with effective parenting (Conger et al., 1992; Kim & Ge, 2000), it is plausible to conceptualize that parental acculturation levels towards the host and heritage cultures may be linked to parenting practices through the mediating factors of bicultural management difficulty and accompanying psychological maladjustment in parents.

In addition to a lack of attention to whether parental acculturation is linked to parenting behaviors through parental acculturative stress, there are several other limitations to the extant studies on acculturation and parenting. First, previous studies usually have not adopted direct measures of acculturation. Rather, they have assumed that immigration status represents higher levels of acculturation towards American culture and lower levels of acculturation towards Chinese culture. Second, they have implicitly assumed a uni-dimensional model of acculturation, i.e., that acculturation towards the host culture is incompatible with acculturation towards the heritage culture. However, it

is possible that a parent may acculturate to a similar extent towards both cultures. Third, previous studies have examined only western-based parenting concepts. Research on acculturation and cultural-specific parenting behavior thus has yet to emerge.

On the basis of the extant literature, our understanding of how parental acculturation levels are associated with parenting practices is very limited. The purpose of this study is to fill this research gap. The first research question is: Are parenting practices associated with depressive symptoms in adolescents from Chinese American families? The second set of research question pertains to the relationship between parental acculturation levels and parenting practices in Chinese American families. In particular, does parental acculturation towards a certain culture relate to parenting practices deemed normative in that culture? Does parental acculturation relate to parenting practices through the mediating factors of parents' bicultural management difficulty and parental depressive symptoms? That is, does parental acculturation relate to parents' bicultural management difficulty and parental depressive symptoms and do parental depressive symptoms, in turn, relate to parenting practices?

The study has four primary strengths. First, in addition to examining the direct influence of acculturation on parenting practices, this study also examines whether parental acculturation is related to parenting through two mediating factors, (1) bicultural management difficulty and (2) parents' psychological maladjustment. By examining both direct and indirect influences of parental acculturation on parenting, this study provides a more comprehensive picture of parenting in a culturally diverse context. Its second strength lies in more valid measures of acculturation, because the study adopts direct measures of acculturation. Third, this study expands previous research by including acculturation towards both American and Chinese cultures, and by examining both western-based and culture-specific parenting concepts. Fourth, the current study

incorporates a longitudinal design that allows for more confidence in making causal inference compared to previous studies, most of which are cross-sectional.

REVIEW OF THE LITERATURE

This literature review is organized into the following sections: a) acculturation and its associations with psychological well-being of the acculturating individuals; b) parenting and adolescent development with a focus on parenting in Chinese contexts; c) the role of acculturation in parenting. The empirical evidence for each aspect is presented. Finally, the focus of the present study is presented.

Acculturation

Acculturation refers to a variety of changes in behavior, language, values, and identity in individuals participating in a culture contact (Graves, 1967). Although culture contact affects both the immigrant group and the receiving society, it has much more of a significant influence on the immigrant group, especially so if there is a great cultural distance between immigrants' original culture and their host culture (Berry, 1997). One case in point is Chinese immigrant group in the United States. There are substantial differences between the Western culture marked by individualism and the Chinese culture characterized by collectivism (Markus & Kitayama, 1991; Triandis, 1995). Chinese immigrants face great challenges in adapting to life in the U.S., such as learning English and learning new norms for social interaction, as well as wrestling with new values and beliefs.

Conceptualization of Acculturation

Acculturation is a dynamic, complex, and multi-faceted process (Arends-Tóth & Van de Vijver, 2004, 2006; Berry, 1997, 2006). The conceptualization of acculturation has emphasized its dimensionality and domain specificity (Arends-Tóth & Van de Vijver, 2004, 2006; Berry, 1997, 2006). Dimensionality refers to two dimensions of

acculturation: adoption of the receiving culture and maintenance of the heritage culture (Arends-Tóth & Van de Vijver, 2004, 2006; Berry, 1997, 2006). Domain specificity denotes that acculturation occurs in multiple domains of life such as language use, social interaction, and values. Moreover, for individuals, acculturation can proceed in different rates and patterns across different domains (Arends-Tóth & Van de Vijver, 2004, 2006; Tsai, Chentsova-Dutton, & Wong, 2002). This section reviews the dimensionality of acculturation and then the domain specificity of acculturation.

Dimensionality

Acculturation process involves how immigrants deal with the culture of origin and the culture of settlement. There are two divergent views regarding the acculturation process: the unidimensional model and the bi-dimensional model. Earlier research conceptualized acculturation as uni-dimensional. According to the uni-dimensional model, maintenance of the heritage culture and adaptation to the host culture are incompatible with each other (Gordon, 1964). Acquiring the behaviors, sense of belonging, and values of the new culture inevitably leads to a loss of ethnic cultural orientation, identification, and values among immigrants (Gordon, 1964). For example, as proficiency in English increase, the ability to speak the ethnic language is expected to decrease.

Current acculturation research primarily adopts the bi-dimensional model. In contrast to the uni-dimensional model, the bi-dimensional model of acculturation highlights the independence of the host and ethnic dimensions of acculturation (e.g., Berry, 1997, 2006). According to this model, it is possible for immigrants to adopt features of the host culture while simultaneously retaining important behaviors, feelings of belonging, and values related to one's heritage culture.

The most popular bi-dimensional model was developed by John Berry (1997). Based on different combinations of the two main dimensions (one's level of immersion in the host culture and the heritage culture), John Berry (1997) proposed four acculturation strategies which include integration, marginalization, assimilation, and separation. Integration refers to involvement in both cultures. Marginalization represents an orientation to reject both cultures. Assimilation is characterized by a complete absorption of the host culture and the loss of the heritage culture. Separation refers to the rejection of the host culture while maintaining the heritage culture.

While the uni-dimensional model and the bi-dimensional model conceptualize acculturation in very different ways, previous studies have shown the usefulness of both models (e.g., Arends-Tóth & Van de Vijver, 2003, 2004; Tsai, Ying, & Lee, 2000). Arends-Tóth & Van de Vijver's study of Turkish-Dutch (2004) indicated that implicit theories of Turkish-Dutch were more in line with a unidimensional model of acculturation than with a bidimensional model. Koreans who resided in the U. S. for a shorter time were more likely to show a uni-dimensional model of acculturation rather than a bi-dimensional model of acculturation (Lee, Sobal, & Frongillo, 2003). Tsai, Ying, & Lee's study (2000) suggested that American-born Chinese developed their Chinese and American orientations in an orthogonal fashion, but immigrant Chinese' acculturation was more consistent with a uni-dimensional model (Tsai et al., 2000). Costigan and Su (2004) examined acculturation among immigrant Chinese families in Canada. The results indicated that the support for bi-dimensional model was much stronger for fathers and children than for mothers. Specifically, while for fathers and foreign-born children, greater involvement in Canada culture was not associated with a decrease in ethnic Chinese cultural involvement, maternal involvement in Chinese culture and involvement in Canadian culture were negatively correlated with each other. Taken together, these

findings suggest that both the uni-dimensional and bi-dimensional models are appropriate models for understanding the acculturation process (Costigan & Su, 2004). The extent to which an individual is able to participate in either of the two cultures or only one culture may vary depending on his/her experience in the host culture and the heritage culture. It follows that the unidimensional model may be more useful for describing the acculturation experience of individuals who are unable to participate in both cultures simultaneously. On the other hand, the bi-dimensional model may be more appropriate for individuals who are able to participate in both cultures simultaneously.

Domain Specificity

Another important aspect of acculturation is that an individual's preference for cultural adaptation and cultural maintenance may vary across different aspects of life or across situations. For example, one may seek assimilation at work but maintain traditional parent-child relationships in one's family. Instead of assuming that individuals' acculturation patterns are uniform across all aspects of life, specifying domains of acculturation takes into account the contexts in which acculturation occurs by recognizing that how acculturation proceeds may depend on what aspect of an individual's life is undergoing acculturation.

Empirical studies have demonstrated the domain-specific nature of acculturation. Arends-Tótha and Van de Vijver (2004; 2006) examined acculturation in two broad domains that they named as the public domain and the private domain. The public domain includes functional and utilitarian aspects of acculturation such as education and employment, whereas the private domain includes personal, socio-emotional and value-related aspects of acculturation such as marriage and cultural pride. In one study of Turkish immigrants in Netherlands (Arends-Tóth & Van de Vijver, 2004), adjustment to the dominant Dutch culture was more emphasized in the public domain while

maintenance of the ethnic Turkish culture was more emphasized in the private domain. It follows that immigrants also chose different acculturation strategies in different domains. Turkish immigrant adults in the Netherlands and Moroccan and Turkish immigrant adults in Belgium preferred integration in the public domain but separation in the private domain (Arends-Tóth & Van de Vijver, 2003; Snauwaert, Soenens, & Vanbeselaere, 2003). Together, this research suggests that relative to behavioral participation, it may be more psychologically demanding for some immigrants to adopt the host culture in private identity and value domains. Without an evaluation of acculturation in multiple domains, it is easy to mislabel a Chinese immigrant as having strong orientation towards the U.S. culture on the basis of a language preference for English while in fact the individual may actively resist the American value system.

Acculturation and Psychological Well-being

In the process of acculturation, individuals need to understand and incorporate values, beliefs, and behaviors of the new host culture into the context of the values, beliefs, and behaviors of their heritage culture. Traditionally, acculturation is conceived of as an exogenous force shaping psychological distress and leading to deterioration in the mental health of individuals (Rogler, Cortes, & Malgady, 1991). Berry and colleagues refer to the kind of stress that stems from the acculturation process as *acculturative stress* (Berry et al., 1987; Dona & Berry, 1994; Williams & Berry, 1991). During acculturation, a particular set of stress behaviors often occurs, such as elevated levels of anxiety and depression, feelings of marginality and alienation, heightened psychosomatic symptoms, and identity confusion (Berry et al., 1987; Dona & Berry, 1994; Williams & Berry, 1991).

A body of empirical research has examined the relationship between the acculturation levels of acculturating individuals and their psychological well-being.

However, it is difficult to integrate findings from the various studies, because there are pronounced variations in the ways in which they conceptualize and assess acculturation (Rogler et al., 1991; Salant & Lauderdale, 2003). For example, studies may adopt proxy measures, such as generational status and length of residence in the host culture (e.g., Nguyen & Peterson, 1992). Among studies that measure acculturation directly, some studies (e.g., Shen & Takeuchi, 2001) consider acculturation as a linear process, and thus utilize a uni-dimensional measurement of acculturation, while other studies adopt orthogonal measures of acculturation towards the host and heritage cultures (Dona & Berry, 1994; Ying, 1995). Furthermore, among those studies adopting the bi-dimensional measurement of acculturation, some examine acculturation orientations towards the heritage and host cultures independently (i.e., a dimensional approach) (Ryder, Alden, & Paulhus, 2000), while others take the typological approach proposed by Berry and colleagues (Berry & Kim, 1988; Berry et al., 1987). When the typological approach is taken, individuals in a study sample are often classified according to four categories: integration (also known as biculturalism), marginalization, assimilation, and separation (Berry & Kim, 1988; Berry et al., 1987).

Empirical Evidence Regarding Acculturation and Psychological Well-being

Empirical studies using uni-dimensional measures of acculturation have found that acculturation towards American culture was inversely associated with measures of psychological maladjustment among different populations, including elderly Chinese Americans (Lam, Pacala, & Smith, 1997), Asian American youth (Tsai & Pike, 2000; Yeh, 2003), and Latino adults (Miranda, Miranda, & Matheny, 2000). Some studies using bi-dimensional measures of acculturation have yielded similar findings (Nguyen, Messe, & Stollak, 1999; Ryder et al., 2000). In a study of Vietnamese American youths, Nguyen, Messe, and Stollak (1999) found that higher levels of acculturation towards American

culture were related to better psychological adjustment, while higher levels of acculturation towards Vietnamese culture were related to poorer psychological adjustment. In Ryder et al.'s study (2000) of Chinese American college students, higher levels of acculturation towards American culture were related to better psychological well-being as represented by fewer interpersonal problems, less social anxiety, and less shyness, whereas higher levels of acculturation towards Chinese culture were related to higher levels of shyness. Both Nguyen, Messe, and Stollak's study (1999) and Ryder et al.'s study (2000) examined acculturation orientations towards the host and heritage cultures independently. These findings converge to indicate that acculturation towards the host culture is related to better psychological well-being, whereas acculturation towards the heritage culture is related to poorer psychological well-being.

Research using the typological approach indicates that, to the contrary, both acculturation towards the host culture and acculturation towards the heritage culture are positively related to psychological well-being. Research on a wide range of ethnic groups in Canada (Berry, 1997; Berry et al., 1987; Dona & Berry, 1994) revealed that integration led to the lowest acculturative stress. In these same studies, assimilation was shown to lead to a medium degree of acculturative stress. Separation and marginalization resulted in the highest acculturative stress (Berry, 1997; Berry et al., 1987; Dona & Berry, 1994). Consistent with Berry's findings, a review of the psychological impact of biculturalism (LaFromboise, Coleman, & Gerton, 1993) indicates that the key to psychological well-being may be the ability to develop and maintain competence in both cultures. The benefits of biculturalism are also supported by findings from a study of Chinese American adults (Ying, 1995). Ying (1995) examined cultural orientation in the domains of language proficiency, cultural activity, and social relationship, and the relationship between all three of these factors and psychological well-being. The results showed that

bicultural individuals who enjoyed both Chinese and mainstream American cultural activities reported better psychological well-being than those who enjoyed only Chinese activities. Bicultural individuals also reported higher levels of life satisfaction than did those who adopted a marginalization strategy.

Although both the dimensional approach (Nguyen et al., 1999; Ryder et al., 2000) and the typological approach (Berry, 1997; Berry et al., 1987; Ying, 1995) operationalize acculturation as bi-dimensional, the findings yielded by the two different approaches are not consistent with each other. That is, when evaluated separately, the host orientation is associated with better psychological well-being while the heritage orientation is associated with poorer psychological well-being (Nguyen et al., 1999; Ryder et al., 2000). However, when acculturation orientations are typologized into the categories of assimilation, integration, separation, and marginalization, individuals with optimal psychological well-being are those who have high levels of acculturation towards both cultures (referred to as biculturals) (Berry, 1997; Berry et al., 1987; Ying, 1995). One possible explanation for this inconsistency is that studies on acculturation using the typological approach have considered biculturals as a homogenous group, whereas, in reality, significant individual variations in the way bicultural identity is managed and experienced may exist (Benet-Martínez & Haritatos, 2005). These variations themselves may be associated with positive or negative emotional experiences, as will be discussed below.

Bicultural Management Difficulty

Although biculturalism studies demonstrate that biculturalism is associated with better psychological adjustment (Berry, 1997; Berry et al., 1987; Ying, 1995), they fail to describe how people go about integrating and maintaining the dual cultures, and they do not account for why biculturalism is beneficial. In fact, while an acculturating person

may desire to maintain positive ties with both their host and heritage cultures, balancing the two cultures may still pose a challenge for the person (Benet-Martínez & Haritatos, 2005). There is some evidence that bicultural individuals vary on a continuum called bicultural identity integration (BII), i.e., the degree to which ethnic and mainstream cultural identities are perceived as compatible or conflicting (Benet-Martínez et al., 2002). Among biculturals who identify with both host and heritage cultures, those high on BII perceive their dual cultural identities as generally compatible, and thus find it relatively easy to integrate both cultures into their everyday lives. In contrast, those low on BII tend to perceive the two cultures as highly distinct and oppositional. Therefore, although those low on BII also identify with both cultures, they are highly aware of the discrepancies between the two cultures and are more likely to feel caught between them (Benet-Martínez & Haritatos, 2005).

Researchers have speculated that low BII biculturals may be more prone to the stresses arising from the acculturation process, since they perceive high levels of tension between the host and heritage cultures (Benet-Martínez et al., 2002). To the author's best knowledge, quantitative research has yet to be conducted to investigate this link. However, qualitative research does indicate that biculturals low on BII are more likely to claim that being bicultural is a tension-laden experience (Phinney & Devich-Navarro, 1997). In contrast, biculturals high on BII may have more positive experiences as biculturals. For example, high BIIs believe that being a bicultural means having the best of both cultures and possessing a better understanding of different perspectives from multiple cultures (Phinney & Devich-Navarro, 1997).

Research has shown that acculturation orientation is an important antecedent of bicultural identity integration (BII). For example, in several samples of Chinese Americans who identified with both Chinese and American cultures, individuals differed

in their levels of BII (Benet-Martínez & Haritatos, 2005; Benet-Martínez et al., 2006; Benet-Martínez et al., 2002; Cheng et al., 2006). Generally, stronger identification with American culture was associated with higher levels of BII while stronger identification with Chinese culture was associated with lower levels of BII. This pattern underscores the notion that competence in the host culture is a key component of BII (Benet-Martínez & Haritatos, 2005; Benet-Martínez et al., 2006; Benet-Martínez et al., 2002; Cheng et al., 2006).

In conclusion, the literature reviewed above suggests that difficulty in managing dual cultures may represent an important correlate of psychological malfunctioning during the process of acculturation.

Parenting in Chinese Contexts

Parenting and Adolescent Development

A large body of empirical studies has demonstrated the importance of parents as the primary socializing agents for children and adolescents (Baumrind, 1991; Baumrind & Black, 1967; Darling & Steinberg, 1993; Maccoby & Martin, 1983). The parenting literature has been dominated by parenting theories and measures formulated in Western cultures (Kim & Wong, 2002). The two approaches most widely used to examine parenting include the typological approach and the dimensional approach.

With respect to typology, parenting researchers have distinguished among four main types of parenting styles: a) authoritative parenting, b) authoritarian parenting, c) permissive parenting, and d) indifferent parenting (Baumrind, 1991; Maccoby & Martin, 1983). Authoritative parents are warm and involved, responsive to children's needs, firm and consistent in establishing and enforcing developmentally appropriate limits and guidelines. Permissive parents are warm and responsive but do not wield adequate control over children. Indifferent parents are characterized by their lack of involvement in

child rearing. Authoritarian parents are controlling and rejecting of their children. They often use power-assertive, prohibitive, and punitive strategies and emphasize absolute obedience from their children.

A bulk of parenting style research, in particular, Chinese parenting research, has examined authoritative and authoritarian styles rather than permissive and indifferent parenting. Therefore, this review will include only authoritative parenting and authoritarian parenting. Both parental authoritativeness and parental authoritarianism have significant impacts on adolescents' development. Parental authoritativeness is associated with positive emotional, social, and cognitive development in adolescents (Baumrind, 1991; Grotevant, 1998; Lamborn, Mounts, Steinberg, & Dornbusch, 1991; Steinberg, 2001). In contrast, authoritarian parenting is often negatively associated with children and adolescents' psychological well-being, social competence, and cognitive development (Grotevant, 1998; Lamborn et al., 1991; Steinberg, 2001).

With respect to parenting dimensions, the most commonly examined parenting dimensions are parental warmth and control (Maccoby & Martin, 1983; Skinner, Johnson, & Snyder, 2005). Parental warmth refers to the expression of affection, love, appreciation, kindness, and regard by parents. Parental warmth and affection provide children a social and emotional resource, whereby children can explore their environment with confidence and trust in others (Bowlby, 1969). Parental sensitive or hostile behaviors may also serve as a behavioral model for children (Bandura, 1977). For example, parental warmth is usually related to positive socio-emotional outcomes in adolescents while its opposite, parental hostility, is usually related to adjustment problems in adolescents (Galambos, Barker, & Almeida, 2003; Grotevant, 1998; Maccoby & Martin, 1983).

The construct, parental control, encompasses different types of control ranging from firm control, restrictive control, to domineering control (Darling & Steinberg, 1993). These different types of control differ in their meanings and their impacts on adolescents' development. Firm control is useful for directing and maintaining appropriate behavior in adolescents. On the other hand, parental coercive and punitive control are implicated in the development and maintenance of externalizing and internalizing problems in adolescents (Chen, Liu, & Li, 2000; Galambos et al., 2003; Skinner et al., 2005). However, studies often use the term parental control without differentiating the different types of control and thus contribute to inconsistent or equivocal findings in the literature about parenting control and its consequences on children (Lau & Cheung, 1987; Lau, Lew, Hau, Cheung, & Berndt, 1990; Skinner et al., 2005).

Parenting measures and models are predominantly developed in Western cultures, especially in the United States. The findings from research with White, middle-class families are often used as the "norm" to compare parenting in other cultures (Kim & Wong, 2002). However, families do not function in a cultural vacuum. Culture has the potential to have a considerable impact on family socialization as parents make efforts to socialize their children to function well in their particular culture. Hence, parenting practices and their impacts may vary depending on the socio-cultural milieu in which a family is embedded (Darling & Steinberg, 1993; Maccoby & Martin, 1983). With regard to Chinese parenting, studies have indicated that it is possible to generalize Western-based conceptualization of parenting to Chinese culture (Chen, Dong, & Zhou, 1997; Chen et al., 2000; Kim, 2003; Kim & Ge, 2000; Porter et al., 2005). Meanwhile, research also suggested that it is important to explore culture-specific aspects of Chinese parenting (Chao, 1994, 2000, 2001; Chao & Tseng, 2002), and is discussed below.

Chinese Parenting

Examining Chinese Parenting with Culture-general Parenting Concepts

Research on Chinese parenting typically adopts parenting concepts developed in Western cultures. It follows that parenting styles and parenting dimensions such as control and warmth have been used to depict Chinese parenting.

A description of Chinese parenting is often accompanied by a comparison between Chinese parenting and European American parenting. With European American parents as the reference group, Chinese parents in mainland China, Taiwan, and overseas have been typically shown as more controlling, more restrictive, and less autonomy-granting (Chao, 1994; Chao, 2000; Chao, 2001; Chiu, 1987; Kelley & Tseng, 1992; Lin & Fu, 1990; Rosenthal & Feldman, 1990; Wu et al., 2002). As the authoritarian parenting style involves a high level of parenting restrictive control, Chinese parents are also found to be more authoritarian and less authoritative compared to European American parents (Chao, 1994; Chao, 2000; Chao, 2001; Porter et al., 2005; Wang & Phinney, 1998).

Research has made comparisons between Chinese parenting and European American parenting in terms of parental warmth as well as parental control. It was found that Chinese adolescents in China reported more parental warmth and acceptance than adolescents in the United States (Greenberger, Chen, Tally, & Dong, 2000). On the other hand, within the United States, Asian American adolescents or Chinese American adolescents reported less parental warmth than European American adolescents (Greenberger & Chen, 1996; Wu & Chao, 2005).

To resolve the paradox, it may be useful to consider that Chinese American adolescents are living at the interface of the mainstream American culture and the ethnic Chinese culture. An image of "the normal American family," represented by typical middle-class European American family, may be used by children from minority families

as a framework for interpreting their parents' behaviors (Pyke, 2000). Therefore, it is possible that when evaluating parental behaviors, Chinese adolescents in China and Chinese American adolescent are using different points of reference, represented by typical parenting behaviors espoused by the larger cultural contexts in each group. With regard to cultural norms for expressing parental warmth, researchers have argued that Asian parents and American parents may exhibit their love for children in different ways (Chao, 2000, 2001). As Asian cultures value self-control and restraint of emotional expression (Uba, 1994), Asian parents demonstrate their love for children through instrumental support for children's well-being rather than through open and direct expression (Chao, 2000; Chao, 2001; Chao & Tseng, 2002; Uba, 1994). On the contrary, mainstream American culture values direct and expressive communication, which is reflected in demonstrative expressions of parental warmth such as kissing, hugging, and praising children. One study (Wu et al., 2002) has yielded partial support for the argument. Using a measure of warmth that taps the demonstrative aspects of love and affection, Wu et al. (2002) found that Chinese mothers scored lower on parental warmth than U.S. mothers. Asian American or Chinese American parents are less inclined towards mainstream American norms for expressing parenting warmth than are their children (Pyke, 2000; Wu & Chao, 2005). Therefore, Chinese American adolescents may be less likely to perceive their parents as warm, referring to the image of a typical "American" family for which demonstrative expression of parental warmth are normative (Pyke, 2000).

Although an observation of group mean differences in parenting constructs is useful in describing Chinese parenting relative to European American parenting, it reveals little about the adaptational meanings of parenting behaviors for children in Chinese cultures (Chen et al., 1997). Therefore, in addition to between-culture

comparisons, it is important to examine within-culture variabilities in parental behaviors and their implications for children's developmental outcomes (Coll & Magnuson, 1999). This is illustrated well by a cross-national study on the normativeness of physical punishment and child outcomes (Lansford et al., 2005). The normativeness was measured by how frequently mothers used physical punishment and how normative mothers and children perceived the use of physical punishment in their country to be. It was found that the positive relationship between physical punishment and child behavioral problems was weaker in the countries where physical punishment was more normative than in the countries where it was less normative. However, within all nations in the study, higher levels of physical punishment were associated with more behavioral problems in children. The results highlight that both between-culture approach and within-culture approach are important perspectives for understanding cultural influences on parenting. Chinese parenting researchers have begun to examine the within-group variabilities in parenting and also the intra-cultural process by which parenting influences children (Chen et al., 1997; Chen et al., 2000; Kim & Ge, 2000).

With respect to parental warmth, there is consistent evidence for the association between parental warmth and child outcomes in Chinese contexts. Moreover, the relationships found in Chinese contexts echo those typically found in the Western cultures. Parental warmth is positively associated with social, academic, and psychological adjustment in Chinese adolescents in China and the U.S. (Chang, Mcbride-Chang, Stewart, & Au, 2003; Chen et al., 2000; Greenberger & Chen, 1996; Greenberger et al., 2000; Kim, 2003; Leung, McBride-Chang, & Lai, 2004). For example, higher level of perceived parental warmth related to lower levels of depression in Chinese or Chinese American adolescents (Chiu et al., 1992; Greenberger & Chen, 1996; Greenberger et al., 2000).

With respect to parental control and parental authoritarianism, studies revealed that domineering and hostile control and authoritarian parenting are related to poor socio-emotional development, poor school performance, and more conflicting parent-child relationship in Chinese children and adolescents (Bush, Peterson, Cobas, & Supple, 2002; Chen et al., 1997; Chen et al., 2000; Florsheim, 1997; Yang et al., 2004; Yau & Smetana, 1996). On the other hand, functional parenting control such as monitoring is associated with positive socio-emotional development in Chinese adolescents (Bush et al., 2002; Kim, 2003; Kim & Ge, 2000). Overall, the relationships between parenting behaviors and child developmental outcomes in China are similar to those typically found in European American contexts. Nevertheless, there are some inconsistent findings regarding parenting and Chinese or Asian American children's educational outcomes.

For European American students, restrictive control and parental authoritarianism are typically linked with poor school performance while authoritative parenting is typically linked with superior school performance (Steinberg, 2001). However, some studies with Asian American students did not find these typical relationships (Dornbusch, Ritter, Leiderman, Roberts, & Fraleigh, 1987). One study (Dornbusch et al., 1987) examined the relationships between parenting styles and academic achievement in four different ethnic groups: African American, Asian American, Mexican American, and Euro-American. Although Asian American student had the most authoritarian parents, Asian American student had the highest academic achievement (Dornbusch et al., 1987). With respect to authoritative parenting, the beneficial effects of authoritative parenting on children's education outcomes were either weak or nonexistent for Chinese American or Asian American students (Chao, 2001; Dornbusch et al., 1987). Based on these findings, some researchers have argued that the traditional Western-based parenting constructs may be ethnocentric and that indigenous Chinese parenting constructs may be more

useful in conceptualizing Chinese parenting (Chao, 1994, 2000, 2001; Chao & Tseng, 2002).

Examining Chinese Parenting with Culture-specific Parenting Concepts

While Western-based parenting theories and concepts are useful to capture some aspects of parenting that are generalizable to both American culture and Chinese culture, relying solely on Western-based parenting models will limit our understanding of the complexity of socialization experience and yield an incomplete picture of Chinese parenting. Researchers are just beginning to develop parenting measures that are indigenous to Chinese culture. Examples include the training construct developed by Chao (1994, 2000) and the family obligation construct (Fuligni, Tseng, & Lam, 1999; Phinney, Ong, & Madden, 2000) .

The concept of "training." Chao (1994, 2000, 2001) suggests that traditional parenting constructs such as authoritative parenting, authoritarian parenting, and parental control are rooted in Western culture which is not necessarily shared by Chinese people. Therefore, these parenting concepts may hold different meanings for the Chinese than for European Americans. Parental control in Western culture often implies parents' desire to dominate children and parents' hostility towards children, whereas in Chinese culture, parental control may be associated with parental warmth and caring. Thus, Chinese children may interpret parental control as a sign of parental involvement and caring concern while European American children may interpret parental control as rejection and hostility.

To depict Chinese parenting, Chao (1994, 2000) proposes a parenting concept called "*training*". *Training* has some overlap with the traditional authoritarian concept in that both emphasize unquestioned obedience and a set standard of conduct. The overlap between the training concept and the authoritarian parenting concept explains why

Chinese parents score high on the authoritarian parenting. However, *training* also involves training children early through guidance and continuous monitoring of their behaviors and denotes parental involvement, concern, and support that the authoritarian concept does not capture. Therefore, Chinese American mothers still scored higher on the training concept than European American mothers even after controlling for maternal education and their levels of parenting authoritarianism and authoritativeness (Chao, 1994, 2000).

Although Chao's research (1994, 2000, 2001) calls attention to underlying cultural differences that can not be captured in a single concept such as authoritarianism, her conceptualization of *training* (1994, 2000, 2001) does have some limitations. Although Costigan et al.'s study (2006) yielded some support for Chao's argument that Chinese and European Americans may interpret parental control in different ways, no research has been conducted to directly examine what the meanings are conferred to parental control by Chinese and by European Americans. Furthermore, Chao (1994, 2000, 2001) has hypothesized that training can explain parenting effects on Chinese children and adolescents' academic performance better than western-based parenting measures. Nevertheless, her *training* concept is developed with mothers of preschool age children. Thus the measure of *training* contains items inappropriate for use with adolescents such as physical closeness between mother and child. Therefore, more research is needed for a conclusion about the usefulness of the *training* concept in understanding Chinese parenting.

Family obligation. Another cultural-specific parenting concept is family obligation. Researchers developed measures of family obligation using samples of immigrant adolescents in the U.S. (Fuligni et al., 1999; Phinney et al., 2000). Family obligation refers to a collection of attitudes and behaviors related to providing support,

assistance, and respect to family members, maintaining propinquity, and close emotional ties with family members (Fuligni et al., 1999; Phinney et al., 2000). Chinese societies have traditionally placed great importance on children's roles and duties for the family, while American families place more emphasis on independence and egalitarianism (Ho, 1996). Studies have found that adolescents from Chinese backgrounds have stronger endorsement of family obligation than do their peers from European American backgrounds (Fuligni et al., 1999; Fuligni, Yip, & Tseng, 2002; Fuligni & Zhang, 2004).

The concept of family obligation and its effects on adolescent development have been examined in Chinese adolescents in the United States and in mainland China (Fuligni et al., 1999; Fuligni et al., 2002; Fuligni & Zhang, 2004). Stronger endorsement of obligations towards the family was associated with closer and more supportive relationships with parents and peers and a higher level of academic motivation among Chinese adolescents in China and the U.S. (Fuligni et al., 1999; Fuligni & Zhang, 2004). However, family obligation can also be source of stress as well as a source of strength. It was found that there was a curvilinear relationship between endorsing family obligations and academic success, with the adolescents holding the strongest and the weakest beliefs in family obligation having the lowest academic achievement (Fuligni et al., 1999). It seems that although a strong sense of obligation towards family can provide motivation to succeed for the good of one's family, strong family demands may interfere with adolescents' school work and undermine their academic performance (Tseng, 2004).

The studies cited above evaluated adolescents' attitudes towards family obligation. A future direction is to examine parents' attitudes toward family obligation and the influence of parental attitudes on Chinese adolescents' development. For example, the mother and the father within a family may have different expectations

regarding their adolescent's obligations towards family, which in turn may have negative implications for the adolescent's well-being.

In summary, the review on Chinese parenting demonstrates the influence of larger cultural contexts on parenting behaviors. While Chinese immigrant parents are parenting their children in both the mainstream American culture and the ethnic Chinese culture, it is reasonable to conceptualize that their parenting practices are subject to the influence of both cultures. Parents' acculturation may serve as a source of variability in their parenting behaviors.

Acculturation and Parenting

Immigrant parents in the United States experience many adjustments, including the challenge of parenting in a new cultural context. Existing research on parental acculturation and parenting practices commonly attribute the variability in parenting practices that are acculturation-related to cultural influences. That is, parents may alter their parenting behaviors as a consequence of culture changes. The body of research that examines parental acculturation and parenting is reviewed below.

As discussed in the preceding section on Chinese parenting, there are some differences in parenting between Chinese culture and European American culture, such as different ways of demonstrating parental warmth. A parent's acculturation towards American culture may entail adjustments in parenting behaviors that are more in line with mainstream American parenting. On the other hand, if a parent maintains strong identification with Chinese culture and resists American culture, the parent may reinforce Chinese parenting practices due to an apprehension that the mainstream culture may undermine the effectiveness of these parenting practices. For example, more Chinese-oriented immigrant parents may put greater emphasis on children's obligations towards family as they are concerned that children may become Westernized and lose ties with

their families; more American-oriented immigrant parents may put less emphasis on family obligation as they accept the American value that adolescents should achieve autonomy and individuation. This section will review the literature regarding whether acculturation produces changes in parenting behaviors.

Studies have suggested that for Chinese immigrant families, acculturation toward American culture is often accompanied by changes in parental control (Chiu, 1987; Lin & Fu, 1990). Chiu's study (1987) and Lin & Fu's study (1990) compared child-rearing practices of mothers with young children in three populations: Chinese in Taiwan, Chinese immigrants in the United States, and European Americans. The studies revealed that Chinese mothers in Taiwan were the most restrictive and controlling, European American mothers were the least restrictive and controlling, and Chinese immigrant mothers fell between the two groups. Using the immigration status of mothers as a proxy index of mothers' American orientation, both studies suggested that acculturation was related to decrease in maternal control. The authors (Chiu, 1987; Lin & Fu, 1990) interpreted the results as Chinese immigrant mothers' adjustment and accommodation to the parenting attitudes and practices valued in the United States.

Another study (Chiu et al., 1992) compared adolescents' perceptions of parental control (a combination of rule-setting, organization, and parental decision making), parental warmth, and parental involvement between Chinese adolescents in Hong Kong, Chinese adolescents from immigrant families in the U. S./Australia, and European American/European Australian adolescents. Results indicated that acculturation experience was associated with adolescents' perceptions of parental control and involvement, but not parental warmth. Specifically, with respect to parental control, Chinese American parents and Chinese Australian parents were more controlling in parenting than were parents in Hong Kong, which is not consistent with the findings

discussed in the preceding paragraph. The inconsistency may arise because parental behaviors were reported by adolescents in Chiu et al.'s study (1992) but reported by parents in Chiu's study (1987) and Lin & Fu's study (1990). Chinese adolescents from immigrant families are living in mainstream Western cultures which put greater emphasis on adolescents' autonomy and independence than the Chinese culture (Feldman & Rosenthal, 1991). Therefore, compared with Chinese adolescents in Hong Kong, Chinese adolescents in the U.S./Australia may be more sensitive to issues of parental authority and thus be more likely to perceive higher level of parental control.

While these studies have shown that acculturation entails some changes in parenting behavior, the results must be interpreted with a caveat as there are some methodological concerns with the operationalization of acculturation and study design in these studies. All of the reviewed studies used immigration status as a proxy of acculturation level, assuming that there was no variability in acculturation within immigrant parents. The immigration status measure assumes acculturation levels and therefore it may not reflect acculturation experiences accurately. This may be a reason for the inconsistency in findings across studies that are discussed above. At least, several studies with other immigrant families adopted direct measures of acculturation and found associations between acculturation and parenting. For example, higher levels of acculturation towards American culture was linked to lower use of inconsistent discipline in Mexican American mothers (Dumka et al., 1997) and more involvement in child care in Indian American fathers (Jain & Belsky, 1997). Jain and Belsky's study (1997) also underscored the importance of adopting direct measures of acculturation. While direct measurements of acculturation orientations were significant correlates of immigrant fathers' involvement in child care, length of residence in the U. S., as a proxy of

acculturation level, was not associated with these fathers' involvement in child care (Jain & Belsky, 1997).

Another limitation of the reviewed studies is their cross-sectional nature. Ideally, longitudinal design may reveal more about the process of how acculturation affects parenting as researchers follow the same families to capture changes in their parenting practices while they go through the acculturation process (Kim & Wong, 2002). Moreover, as parenting is less susceptible to acculturation influences than other aspects of life such as language use and food choice (Arends-Tóth & Van de Vijver, 2006), a longitudinal design should allow assessment period long enough to discern changes in parenting. For example, Bornstein and Cote (2006) conducted a longitudinal study with Japanese American mothers and South American immigrant mothers. The authors examined whether mothers' acculturation level when their firstborn children were five months old predicted their parenting cognitions (mothers' attributions for their parenting behavior, self-perceptions of parenting, parenting knowledge, parenting style) and practices (mother-child play) when their children were twenty months olds. Very few relations between mothers' acculturation level and parenting cognitions or practices were obtained for either Japanese American or South American mothers. The authors suggested that the failure to find acculturation effects on parenting may be due to the short length of the interval between the two assessments.

Currently, studies on acculturation and parenting have focused on parenting concepts such as parental control and parental warmth formulated in Western societies. Little attention has been paid to culture-specific parenting concepts such as family obligation and "*training*" (Kim & Wong, 2002). Therefore, what we know about acculturation effects on parenting is limited to whether immigrants' parenting increasingly approximates European American parenting norms. Although no study is

conducted to examine the relationship between acculturation and culture-specific parenting behavior, family obligation research suggests that parental attitudes toward family obligation may also be susceptible to acculturation experience. Specifically, acculturation influences are reflected in intergenerational difference in endorsement of family obligation in Chinese American families. For example, the more acculturated Chinese American adolescents perceived that their parents often placed greater importance on family obligation than these adolescents themselves, particularly in regards to treating parents with respect (Fuligni et al., 1999; Phinney et al., 2000). Although these studies did not address acculturation and parenting directly, their findings indicate that family obligation is an important area for future study. Future research should include acculturation influence on culturally specific parenting behaviors, which will reveal whether parents will depart from traditional Chinese parenting in their acculturation towards American culture.

Thus far, the review has discussed studies on parental acculturation and parenting that focus exclusively on cultural influences on parenting practices. However, it is possible that parental acculturation is linked to parenting behaviors through other mechanisms as well. For those living at the interface of two cultures, acculturation experiences are relevant to many aspects of their lives. Psychological well-being is one such aspect.

Research on immigrants and minority populations has suggested that individuals in the process of acculturation may experience psychological distress and a deterioration in their mental health (Berry & Kim, 1988; Rogler et al., 1991). Meanwhile, research on children and families has demonstrated that parents' psychological malfunctioning often has deleterious effects on parental interactions with children (Cummings & Davies, 1994; Downey & Coyne, 1990). Depressed mood is likely to cause irritable responses in parents

and thus compromise their ability to interact with their child in an effective way, a way that promotes the child's well-being and development (Cummings & Davies, 1994; Downey & Coyne, 1990). Compared with non-depressed parents, depressed parents often exhibit more constricted behavior and affective expression, heightened levels of hostility and negativity, more coercive control, and more inconsistency during parent-child interactions (Cummings & Davies, 1994; Downey & Coyne, 1990). For example, research has found that parental depressed mood is correlated with disrupted discipline practices and less affection towards children in both European American and Chinese American samples (Conger et al., 1992; Conger, Patterson, & Ge, 1995; Kim & Ge, 2000).

For families that navigate the stressful processes of acculturation, the parents' ability to guide and nurture their children may be particularly crucial to children's development. But at the same time, these acculturating parents may be at heightened risk for psychological maladjustment, which would interfere with their ability to parent. In addition, these parents are faced with two sets of values, beliefs, and norms regarding child-rearing: those of the host culture and those of the heritage culture. It appears that the way in which acculturation impacts parenting is multi-faceted and complex. Future research needs to consider multiple mechanisms whereby acculturation triggers changes in parenting practices. For example, in addition to examining the direct cultural influences of parents' acculturation orientations on their parenting, studies can test whether psychological maladjustment stemming from the acculturation experience serves as a mediator in the relationship between parents' acculturation orientations and their parenting.

The Focus of the Study

The purpose of the current study is twofold. First, this study examines whether and how several western-based parenting constructs and one culture-specific parenting construct may be related to adolescent depressive symptoms (Figure 1). Second, this study aims to explore the relationships between parental acculturation levels and parenting behaviors (Figure 2). While a body of research has suggested there are some associations between parental acculturation levels and parental behaviors in immigrant families (Chiu, 1987; Dumka et al., 1997; Jain & Belsky, 1997; Lin & Fu, 1990), the way in which these constructs might be interrelated has yet to be explored. It is possible that parental acculturation levels are linked to parenting behaviors directly through cultural influence, since cultural contexts often exert important influence on parenting practices; it is also possible that parental acculturation levels are linked to parenting behaviors indirectly through the mechanism of parental psychological malfunctioning having resulted from acculturation experiences. As delineated in Figure 2, both direct and indirect links between parental acculturation and parenting practices are examined in the theoretical model.

Focus 1: Linking Parenting and Adolescent Depressive Symptoms

Measures of parenting practices include western-based parenting concepts "parental warmth," "punitive parenting," and "non-democratic parenting," and one culture-specific parenting concept "family obligation" which is assessed using the two subscales of "respect" and "support."

The relationships between these parenting constructs and adolescent depressive symptoms are tested separately for maternal parenting and paternal parenting at each wave of data collection. Research linking parenting to child and adolescent competence traditionally focuses on mothers' parenting (e.g., Chao, 2000). The present study also

includes paternal parenting, in order to provide a more comprehensive understanding of relationships between parental behavior and adolescent outcomes. By examining the relationships at each wave of data collection, it is possible to examine how parenting behaviors are associated with adolescent adjustment at two different stages of their development: early and middle adolescence.

One set of hypotheses refers to parenting behaviors assessed by western-based measures and adolescent outcome. Research on Chinese/Chinese American adolescents has found that lower levels of parental warmth are associated with higher levels of depressive symptoms in adolescents (Chiu et al., 1992; Greenberger & Chen, 1996; Greenberger et al., 2000; Kim, 2003). In light of these findings, this study hypothesizes that higher levels of parental warmth are associated with lower levels of adolescent depressive symptoms. In light of the positive relationship between parental restrictive and domineering control and adolescent depression (Conger, Ge, Elder, Lorenz, & Simons, 1994; Skinner et al., 2005), it is hypothesized that higher levels of parental non-reasoning, punitive behaviors and non-democratic behaviors are associated with more depressive symptoms in adolescents.

The culture-specific parenting construct "family obligation" is also examined in the current study. Research conducted by Fuligni et al. (2002) failed to find any relationship between adolescent attitudes toward family obligation and adolescent psychological distress. However, that study examines attitudes of adolescents while the current study examines attitudes of parents. To date, there has been no research conducted on self-reports of parental endorsement regarding adolescents' fulfillment of family obligations and how the endorsement affects adolescent psychological well-being. Thus, no hypothesis is formulated. Instead, the current study explores the link between parental attitudes toward family obligation and adolescent adjustment.

Covariates for the analyses include parental education and family income as these factors are usually linked with parenting behaviors (Parke & Buriel, 1998). Higher levels of parental education and family income are usually associated with more parental warmth and less parental control (Parke & Buriel, 1998). Adolescent gender is included in the model as there is evidence that female may be more vulnerable to depression than males and that there may be different predictors of depression for females and males (Nolen-Hoeksema, 2001; Nolen-Hoeksema & Girgus, 1994).

Focus 2: Linking Parental Acculturation and Parenting

Two research questions are asked. The first task is to investigate cultural factors that influence parenting behaviors. In particular, is parental acculturation towards a given culture associated with parenting behaviors deemed normative in that culture? The second question asks whether parental acculturation is associated with parenting behaviors through the mechanism of acculturative stress and parental psychological maladjustment. Specifically, is parental acculturation related to difficulty in balancing the host culture and the heritage culture? Does difficulty in balancing the two cultures relate to depressive symptoms in parents, which, in turn, are associated with variability in parenting practices?

Direct Path Linking Parental Acculturation and Parenting Practices

The process model depicting both direct and indirect paths linking parental acculturation levels and parenting practices is shown in Figure 2. In order to examine acculturation towards American culture in conjunction with acculturation towards Chinese culture, both American orientation and Chinese orientation are included in the model. Moreover, interactions between Chinese and American orientations are tested to investigate whether the relationship between acculturation level towards one culture and

parenting depend on the level of acculturation towards another culture. This theoretical model is tested for each parenting concept separately at each wave of data collection.

Two general sets of hypotheses are tested. First, it is hypothesized that parents' acculturation levels are associated with their parenting behaviors through cultural factors. That is, higher levels of acculturation towards one culture may be associated with higher levels of adoption of normative parenting practices in that culture.

Specifically, with respect to punitive parenting and non-democratic parenting, because Chinese parents are usually depicted as more controlling and restrictive in comparison to European American parents (e.g., chao, 1994, 2000, 2001; Chiu, 1987; Wu et al., 2002), higher levels of acculturation towards American culture are hypothesized to be associated with lower levels of punitive parenting and non-democratic parenting. In contrast, higher levels of acculturation towards Chinese culture are hypothesized to be associated with higher levels of punitive parenting and non-democratic parenting.

With respect to parental warmth, the research comparing levels of parental warmth between Chinese culture and American culture has yielded inconsistent findings. Chinese adolescents in China reported more parental warmth than adolescents in the U.S. (Greenberger et al., 2000). However, Chinese American adolescents reported less parental warmth than European American adolescents (Greenberger & Chen, 1996; Wu & Chao, 2005). As the cited findings were based on adolescent report, adolescents' interpretation of parental behavior might play a role in yielding inconsistent findings. Chao (2000, 2001) argued that Chinese parents might be more likely to express their parental warmth through instrument support rather than through open expression. In support of this assertion, one study found that Chinese parents might score lower on demonstrative aspects of parental warmth than did European American parents (Wu et al., 2002). However, Wu et al.'s research studied parenting of preschoolers. The findings

based on preschool sample might not be applicable to parenting of adolescents. Thus, the hypothesis regarding parental warmth is not formulated.

With respect to family obligation, it is hypothesized that higher levels of acculturation towards American culture are linked to lower levels of family obligation and higher levels of acculturation towards Chinese culture are linked with higher levels of family obligation. The hypothesized relationships are based on the finding that Chinese adolescents scored higher on family obligation measures than did European American adolescents (Fuligni et al., 1999; Fuligni et al., 2002; Fuligni & Zhang, 2004). Moreover, Chinese American adolescents perceived that their parents endorsed family obligations more than themselves (Fuligni et al., 1999). The previous findings indicate that Chinese culture attaches greater importance to family obligation in comparison with American culture, thus providing a rationale for the hypothesis.

With respect to interaction effects between Chinese and American orientations on parenting behaviors, no hypothesis is formulated due to lack of research on this topic. Instead, this study explores the conjoint influence of two cultures on parenting behaviors.

Whether Acculturation is Related to Parenting Practices Through Bicultural Management Difficulty and Parental Depressive Symptoms

The second set of hypotheses is proposed to explain bicultural management difficulty and parental depressive symptoms as potential mediating factors between acculturation and parenting practices. First, it is important to establish significant linkages between (1) parental acculturation and parents' bicultural management difficulty, (2) bicultural management difficulty and parental depressive symptoms, (3) parental acculturation and parental depressive symptoms, and (4) parental depressive symptoms and parenting practices.

The first linkage to address is the one between parental acculturation and parents' bicultural management difficulty. Previous research (Benet-Martínez & Haritatos, 2005;

Benet-Martínez et al., 2006; Benet-Martínez et al., 2002; Cheng et al., 2006) has demonstrated that acculturation orientation is related to bicultural identity integration (BII), a construct that is conceptually related to bicultural management difficulty. Higher levels of BII represent lower levels of difficulty and conflict in balancing and integrating host and heritage cultures, whereas higher levels of bicultural management difficulty reflect higher levels of difficulty and conflict in balancing the two cultures. Specifically, acculturation towards the host culture is related to higher levels of BII, while acculturation towards the heritage culture is related to lower levels of BII (Benet-Martínez & Haritatos, 2005; Benet-Martínez et al., 2006; Benet-Martínez et al., 2002; Cheng et al., 2006). Based on these findings, it is hypothesized that American orientation is associated with lower levels of bicultural management difficulty and that Chinese orientation is associated with higher levels of bicultural management difficulty.

The second linkage is the one between bicultural management difficulty and parental depressive symptoms. As previous research (Phinney & Devich-Navarro, 1997) indicates that difficulty and conflict in managing the two cultures is a potential stressor for the acculturating individuals, it is hypothesized that higher levels of bicultural management difficulty experienced by parents are related to more parental depressive symptoms.

The third linkage is the one between acculturation orientations and parental depressive symptoms. The extant research on acculturation and psychological well-being consistently shows that acculturation towards the host culture is related to better psychological well-being (Berry, 1997; Lam et al., 1997 ; Ryder et al., 2000). Thus, for the current study, it is hypothesized that American orientation is related to better psychological well-being. However, research on acculturation towards the heritage culture has been inconsistent: some studies have found it to be negatively related to

psychological well-being (Lam et al., 1997 ; Ryder et al., 2000), while others have found it to be positively related to psychological well-being (Berry, 1997). Due to these conflicting findings, no hypothesis was proposed for the relationship between Chinese orientation and depressive symptoms in this study.

The last linkage is the one between parental depressive symptoms and parenting practices. Previous research has established that parental depressed mood has deleterious effects on parenting behaviors in both Chinese and European American samples (Conger et al., 1995; Ge, Conger, Lorenz, & Simons, 1994; Kim & Ge, 2000). Therefore, it was hypothesized that higher levels of parental depressed mood may be linked to higher levels of punitive parenting, higher levels of non-democratic parent-child interaction, and lower levels of parental warmth. No hypothesis is developed for the link between parental depressed mood and family obligation measures because of lack of previous research in this area.

In order to make causal inferences, this study also tests a model from parental acculturation to parental bicultural management difficulty to parental depressive symptoms (all three variables at wave 1) , which in turn is expected to relate to parenting practices at wave 2 (Figure 3).

Both of the structural models displayed in Figures 2 and 3 are examined for mothers and fathers separately. Parental education and family income serve as control variables in these models, since they are important demographic correlates of acculturation levels, acculturative stress, psychological well-being, and parenting practices (Berry, 1997; Parke & Buriel, 1998). Child gender also serves as a control variable in the model because it has been found that parenting behaviors may vary according to child's gender (Starrels, 1994).

METHOD

Procedure

Data for this study came from a larger project on Chinese American families conducted by Kim (2003). Kim's project is an ongoing longitudinal study on acculturation, parenting, and well-being of Chinese American families. Two waves of data have been collected in year 2002 and year 2006, respectively. The data were collected in Northern California. Data were collected from a target adolescent, the mother, and the father from each participating family.

At the wave 1 data collection, participants were recruited from seven middle schools in two school districts in major metropolitan areas of Northern California. With the assistance of school administrators, research staff identified Chinese American students. Each eligible family was sent a letter describing the study. Then participants were recruited in one of two ways. In one way, bilingual research staff contacted each family by phone and requested participation in the study. After obtaining telephone consent, questionnaires for the family members were mailed to the family. About two to three weeks after mailing the surveys, research staff visited the schools and collected completed surveys during students' lunch times.

In another way, research staff visited students' homeroom periods twice. During the first visit, consent forms were distributed to the adolescents. During the second visit, the questionnaires were distributed to the students who agreed to participate in the study.

About two to three weeks later, research staff visited the schools and collected completed questionnaires during students' lunch times.

Of all eligible families who were contacted, 47% agreed to participate. Of these families, 76% completed surveys. Families received $30 on returning completed questionnaires.

In 2006, participants were re-contacted for the follow-up study. Only those families who returned surveys in the initial study were invited to participate, resulting in participation rate of 79% of the wave-1 sample. The wave-2 data collection proceeded in the same way as the wave-1 data collection. Families were given $50 in compensation.

For both waves of data collection, each household received a package of questionnaires for the mother, the father, and the target adolescent. Both English version and Chinese version questionnaires were provided. In order to ensure comparability of the two versions, the questionnaires were first translated to Chinese and then back translated to English. Inconsistency between Chinese version and English version were resolved by two bilingual research assistants with careful consideration of culturally appropriate meaning of items. The majority of adolescents used the English version (86% at wave 1; 95% at wave 2), while over 70% of fathers and mothers completed the Chinese version questionnaires at both waves of data collection. Participants were instructed to complete the questionnaires alone and not to discuss answers with family members and/or friends. Moreover, participants were instructed to seal their questionnaires in the provided envelopes immediately following the completion of their responses.

Participants

Participants were adolescents, their mothers and fathers from Chinese American families. There was at least one immigrant parent in most of the participating families. In wave 1, 76% of the families who agreed to participate completed the surveys, yielding a sample of 444 adolescents, 408 mothers, and 382 fathers. In wave 2, 349 adolescent, 310

mothers, and 281 fathers from wave-1 sample participated. As the current study focuses on Chinese families, cases are excluded if they do not meet the criterion that both parents and the target adolescent are of Chinese ethnicity. One family is deleted from the study because the target adolescent was living with a step-father who is not Chinese. The resulting wave-1 study sample includes 443 adolescents, 407 mothers, and 381 fathers; the resulting wave-2 study sample includes 348 adolescents, 309 mothers, and 280 fathers.

In wave 1 study sample, most of the mothers (*N* =402, 91%) and the fathers (*N* =387, 87%) are immigrants. On average, fathers were 48 years old (*SD* = 6.18) and mothers were 44 years old (*SD* = 4.51). In terms of mean age at the time of immigration, fathers were 30 years old (*SD* = 10.17) and mothers were 28 years old (*SD* = 8.90). Length of time in the U. S. ranged from less than one year to 53 years for the fathers (*M* =17.59, *SD* = 10.17) and ranged from less than one year to 41 years for the mothers (*M* =15.73, *SD* = 8.34). About 75% of the adolescents are foreign-born (*N* = 334). There were slightly more girls (*N* = 239, 54 %) than boys (*N* = 204, 46%) in the sample. Adolescents' ages ranged from 12 to 15 (M = 13, *SD* = .73). These adolescents were enrolled in the 7th or 8th grades. With respect to socioeconomic status, mean family income of these families fell within the range from $30,001 to $45,000 (family income: *M* = 3.81, *SD* = 2.48). Most of the parents had finished high school. The majority of the families were two-parent families (*N* = 395, 89%).

In wave 2, the target adolescents reached middle adolescence. They were enrolled in the 11th or 12th grades. As about 21% of families in the wave-1 study sample did not participate in the follow-up study, a bias analysis was conducted to assess demographic differences between families that participated in both waves and families lost to the follow-up. Boys were more likely to drop out from the wave 2 study than girls, $\chi^2(1) =$

16.06, $P < .001$. The two groups did not differ on other demographic characteristics such as parental education, family income, parental immigration status, child immigration status, child age, and parental age.

Measurement Issues

Acculturation

The construct of acculturation has been measured in various ways. Some studies adopt proxy measures of acculturation using demographic background variables such as generational status, immigration status, and length of residence in the host culture (e.g., Rosenthal & Feldman, 1990). These proxy measures may be useful in describing group trends. For example, children from immigrant families are usually more acculturated towards the host culture than are their parents. However, using these proxy measures, acculturation level is assumed rather than being directly assessed. Moreover, proxy indices of acculturation do not take into account individual differences within a certain group (Phinney, 2006).

Direct measures of acculturation level are based on either the uni-dimensional model of acculturation or the bi-dimensional model of acculturation (Birman, 2006a; Birman, 2006b). When acculturation is conceptualized as a linear process, the measures of acculturation locate individuals on a continuum between the host and heritage cultures. An example is the Suinn-Lew Asian Self-Identity Acculturation Scale (Suinn, Ahuna, & Khoo, 1992; Suinn, Rickard-Figueroa, Lew, & Vigil, 1987), which has been widely used with Asian American population (Buki, Ma, Strom, & Strom, 2003; Crane, Ngai, Larson, & McArthur, 2005). According to this scale, the higher a person's score on the scale, the more assimilated the person is to the host culture and the less acculturated the person is to his/her heritage culture. Such types of acculturation measure assume that acculturation to the host culture entails a loss of connection with the heritage culture. However,

orientations towards the host and ethnic cultures are not necessarily incompatible. Thus, uni-dimensional measures fail to identify individuals who endorse both cultures or reject both cultures. On the other hand, bi-dimensional acculturation measures assess acculturation with respect to both the host and the heritage cultures, allowing the possibility that acculturation towards the two cultures can be orthogonal. Therefore, compared with uni-dimensional acculturation measures, bi-dimensional acculturation measures may be preferable as these measures can yield a more complete picture of one's acculturation experience (Ryder et al., 2000).

The construction of bi-dimensional acculturation measures follows either a typological approach or a dimensional approach (Kang, 2006). The dimensional approach assesses individuals' acculturation towards the host culture and their acculturation towards the ethnic culture independently. The scores on the two scales are either used independently (Kim, 2003) or used as interaction terms in regression models to predict outcomes of interest (Costigan & Dokis, 2006a). Using the typological approach, participants are classified into different modes of acculturation. The most widely used typology is the four acculturative styles proposed by Berry (Berry, 1997, 2006): assimilation, integration, separation, or marginalization. One way to obtain Berry's typology is to dichotomize individuals' ratings on the host and ethnic dimensions (e.g., Liem, Lim, & Liem, 2000). However, dichotomizing quantitative measures often yields substantial negative consequences (MacCallum, Zhang, Preacher, & Rucker, 2002). For example, median or means and standard deviations of scores on the host and ethnic dimensions are often used by researchers to decide on the point of dichotomization. In this way, defining groups as high or low is influenced by sample-specific characteristics. Thus, it is difficult to compare research findings across studies (MacCallum et al., 2002).

Considering the problems involved in the operationalization of acculturation, this study measured acculturation levels of parents through a bi-dimensional acculturation scale. Specifically, parental acculturation towards Chinese culture and parental acculturation towards American culture were assessed independently.

Measures

The internal consistency alpha coefficients for study measures are displayed in tables of measurement models (Tables 1-8). For some scales/subscales, a small number of items were discarded after factor analysis in order to refine the scales/subscales. Therefore, the alpha coefficients reported may be for refined scales/subscales, which may be slightly different from their original version.

Acculturation

Acculturation levels were assessed with the Vancouver Index of Acculturation (Ryder et al., 2000). The VIA instrument is displayed in Appendix A. Based on the bi-dimensional model of acculturation, the VIA consists of two subscales that assess acculturation towards the heritage and host cultures independently. Using a 5-point Likert-type scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*), participants responded to 20 items that assessed values, behaviors, traditions, and social interactions with regard to the heritage and mainstream cultures. Ten of the 20 items measured the host culture orientation and another ten corresponding items reflected the heritage culture orientation.

Ryder et al.'s study (2000) demonstrated that the VIA was an effective instrument for assessing acculturation in Chinese and other ethnic groups (2000). In Ryder et al.'s study of Chinese, non-Chinese East Asian, and ethnically diverse samples, Cronbach's alphas ranged from .91 to .92 for the heritage dimension and ranged from .85 to .89 for the mainstream dimension. Orthogonality of the two dimensions was established by their

small intercorrelations found in their sample (*r*s = -.18, -.13, and -.01, $p < .01$, *ns*, and *ns*). Moreover, the VIA demonstrated good concurrent and factorial validity in Ryder et al.'s study (2000).

In the current study, Using the VIA, mothers and fathers reported their own acculturation towards American culture and Chinese culture. Both Chinese orientation and American orientation showed good internal reliability (Chinese orientation, α = .80-.86; American orientation, α = .82-.86). The correlations between Chinese orientation and American orientation are small and not statistically significant (wave 1, r = .07-.10, p = .06 -.18; wave 2: r =-.07-.03, p =.26-.59), indicating that the two dimensions are indeed orthogonal.

Bicultural Management Difficulty

Bicultural management difficulty was assessed by three items: "difficult to balance two cultures," "do not like having to choose between two cultures," and "difficult to know when I need to be more Chinese or American in a certain situation" (Appendix A). The scale was developed by Dr. Su Yeong Kim at the University of Texas at Austin. Parents reported on the difficulty they had experienced in balancing Chinese culture and American culture on a scale of 1 (*never*) to 5 (*always*). The scale demonstrated acceptable reliability in the current study (wave 1, α =.71 - .74; wave 2, α =.70 - .74).

Parenting Measures

All the parenting measures used in the proposed study (Appendix B) were collected through parental self-reports.

Parental Warmth

Parenting warmth was assessed through measures adapted from the Iowa Youth and Families project (Ge, Conger et al., 1996). Using a scale ranging from 1 (*never*) to 7

(*always*), parents rated how often they were engaged in the behaviors assessed during their interactions with the target adolescents. In the current sample, the parental warmth scale showed good internal consistency (wave 1, α = .82-.84; wave 2, α = .86 -.88).

Punitive Parenting & Non-democratic Parenting

Punitive parenting and non-democratic child participation are two distinct aspects of parental restrictive control. The two aspects were assessed through items from Block's Child-rearing Beliefs and Practices (CRPR). There are 91 items in CRPR that tap different types of child-rearing attitudes and behaviors. The original format of the CRPR is Q-sort. This study used the modified version of the CRPR. Instead of using Q-sort format, each item was rated on a 5-point Likert-type scale ranging from 1(*never*) to 5 (*always*) (Robinson, Mandleco, Olsen, & Hart, 1995).

The punitive parenting construct was assessed by four items from the CRPR that tap nonreasoning and punitive parenting strategies such as "discipline first and ask questions later" and "threats with little or no explanation." The non-democratic child participation construct was measured by another four items from the CRPR that tap behaviors that discourage give-and-take between parents and children. Two examples are "encourage child's free expression" and "allow child's input in family rules." In the current study, the two scales showed acceptable internal consistency. Across wave 1 and wave 2, the αs of the punitive parenting scale ranged from .66 to .71; the αs of the non-democratic child participation ranged from .62 to .79.

Family Obligation

The family obligation instrument was adapted from Fuligni et al.'s family obligation instrument (1999). The instrument was created to tap immigrant youths' attitudes toward specific family obligations that are particularly salient in the lives of adolescents (Fuligni et al. 1999). There are three scales: (1) *current assistance to the*

family that assesses adolescents' expectations for how often they should assist with household tasks and spend time with their family; (2) *respect for the family* that measures adolescents' beliefs about the importance of respecting and following the wishes of other family members, and (3) *future support to the family* as adults that taps beliefs about their obligations to support and be near their families in the future. The family obligation measure has demonstrated good reliability and validity with Chinese/Asian adolescents (Fuligni et al., 1999; Fuligni et al., 2002; Fuligni & Zhang, 2004). In the current study, the original family obligation measure by Fuligni et al. (1999) was adapted to assess parental attitudes regarding their children's family obligation behaviors.

In the current study, parental beliefs in the extent to which adolescent should fulfill family obligations were measured through parental self report. The original family obligation items contained some items relevant to grandparents and siblings. However, it was possible that the participating adolescents did not have grandparents or siblings in their household. This might be particularly true for presence of siblings, considering that China has adopted one-child policy since 1979. Thus, the items concerning grandparents and siblings were not used in the current study. The resulting items for the respect, current assistance, and future support scales are displayed in Appendix B.

Using a scale ranging from 1 (*not at all important*) to 5 (*very important*), parents rated how important it was to them that the target child engaged in the behaviors that are related to family obligation. In this study, the items on the current assistance and future support scales were combined into one scale support as both sets of items tapped into assistance to the family and the items on the two scales were moderately correlated. The family obligation instrument showed adequate internal consistency in the current study (respect, α = .71-.76; support, α = .72-.78).

Depressive Symptoms

Both parents' and Adolescents' depressive symptoms were assessed through the Center for Epidemiologic Studies of Depression Scale (Radloff, 1977) that has been commonly used with Asian American (Costigan & Dokis, 2006a; Greenberger & Chen, 1996; Kim & Ge, 2000). The scale includes 20 items that assess depressive symptoms in four areas: depressive affect, somatic activity, positive affect, and interpersonal relations. Mothers, fathers, and adolescents rated their own levels of depressive symptoms on a 4-point scale from 0 (*rarely or none of the time*) to 3 (*most or all of the time*). Moreover, mothers and fathers reported on adolescents' depressive symptoms.

The four positive affect items were reverse-coded for analysis. Thus, for all the items, higher scores indicate more depressive feelings. The CES-D scale has demonstrated good reliability and validity among adults and adolescents of Chinese background (Costigan & Dokis, 2006a; Greenberger & Chen, 1996; Kim & Ge, 2000). In the current study, the subscales showed acceptable or good reliability (interpersonal relations, α = .66 to .80; somatic complaint, α = .69-.84; depressive affect, α = .76-.86; positive affect, α = .71-.77).

Covariates

Parental Education

Parents reported on the highest level of education they completed. Parental education level was assessed through a 9-point scale, ranging from (1) "no formal schooling" to (2) "some elementary school" to (3) "finish elementary school" to (4) "finish middle school/junior high school" to (5) "some high school" to (6) "finish high school" to (7) "some vocational or college training" to (8) "finished bachelor's degress" to (9) "finished graduate degree (medical, law, Master's degree, etc.)." For both parents

at both waves of data collection, the average education level was category 6 "finish high school," and the standard deviations ranged from 1.7 to 1.8.

Family Iincome

Both mothers and fathers reported on their family income before taxes during the past year. Family income was assessed in $15,000 increments using a 12-point scale, (1) $15,000 or under to (2) $15,001-$30,000 to (3) $30,001-$45,000 to (4) $45,001-$60,000 to (5) $60,001-$75,000 to (6) $75,001-$90,000 to (7) $90,001-$105,000 to (8) $105,001-$120,000 to (9) $120,001-$135,000 to (10) $135,001-$150,000 to (11) $150,001-$165,000 to (12) $165,001 or more. In this study, family income was indexed by the average of mother report and father report within a household (wave 1, M =3.82, SD =2.48; wave 2, M =4.34, SD =2.60).

Adolescent Gender

Adolescent gender was measured by a dichotomous variable with 0 representing boys and 1 denoting girls (wave 1, M =.54, SD =.50; wave 2, M =.59, SD =.49).

Data Analyses

The analyses consisted of two phases. The first phase was to establish the adequacy of the study measures. The second phase was to test the models displayed in Figures 1 to 3.

Phase 1: Measurement

Establishing adequacy of measures is important before proceeding to test the interrelationships among the measures. Measurement work is especially important for the current study since the core measures in this study are not originally developed with populations similar to the population examined in this study — Chinese American families. The core measures of this study are acculturation measures, parenting measures,

and measures of depressive symptoms in parents and adolescents. Regarding acculturation measures, this study employed the VIA instrument to assess the acculturation levels of the parents. However, the VIA was originally developed with Chinese undergraduate students in Canada (Ryder et al., 2000). It is therefore not known whether the VIA can be validated on the current sample, which possesses different demographic characteristics than the sample in Ryder et al.'s study (2000). As for the parenting measures, parental warmth, punitive parenting, and non-democratic child participation were developed with a European American population. Although family obligation measures have been developed with ethnic diverse populations, including Chinese Americans, these measures have been developed with adolescent samples, while the current study uses a family obligation measure to assess parental beliefs and attitudes regarding adolescents' fulfillment of family obligations. It was necessary to ensure that the measures used in this study could be applied to the Chinese American families in the sample prior to testing the interrelationships among the measures. If these measures failed to capture the latent constructs they were designed to represent, it would not be sensible to interpret the interrelations between constructs.

Therefore, factor analytical models were employed to test the adequacy of the acculturation, parenting, and depressive symptom measures. First, exploratory factor analyses were conducted to examine the factor structure underlying the latent construct. On the basis of results from exploratory factor analyses and previous literature, confirmatory factor analysis models were specified and then tested. If exploratory factor analysis suggested that some items may not behave appropriately, and deleting those items had substantive appeal, the problematic items were discarded for confirmatory factor analysis.

Phase II: Structural Models

The main purpose of this study is to understand the relationships between parenting and adolescent development, and the relationships between parental acculturation experience and parenting.

First, direct relations between adolescent depressive symptoms and parenting practices, as measured by western-based parenting constructs (warmth, punitive parenting, and non-democratic parenting), and one culture-specific parenting construct (family obligation), were investigated (Figure 1).

Second, a cross-sectional model encompassing both direct and indirect links from parental acculturation levels to parenting practices was examined (Figure 2). The indirect link describes a relationship between parental acculturation levels and parenting practices through the mechanisms of the difficulty balancing Chinese and American cultures and ensuing parental depressed mood. In this model, both main effects and interaction effects of Chinese orientation and American orientation were tested. Significant interaction effects were followed by simple slope analysis to interpret those interaction effects (Aiken & West, 1991).

Third, the linkages between parental acculturation, bicultural management difficulty, parental depressive symptoms, and parenting practices were tested longitudinally (Figure 3). The model examined whether parental acculturation, parents' bicultural management difficulty, and parental depressed mood at wave 1 predicted parenting practices at wave 2.

The models depicted in Figures 1 to 3 were tested separately for mothers and fathers. Then, for mothers and fathers, models were tested separately for parental warmth, punitive parenting, non-democratic parenting, and parental endorsement of family

obligation. Parental education, family income, and adolescent gender served as the control variables.

Model Testing

Both the measurement models and the full structural models were tested using the 4.2 version of Mplus software (Muthén & Muthén, 2004). The advantageous features of Mplus include its ability to handle non-normally distributed data, model ordinal variables, and missing data.

Estimation procedures widely used in SEM, such as ML (maximum likelihood parameter estimates with conventional standard errors and chi-square test statistics), typically assume normal distribution for continuous variables (Kline, 1998; Muthén & Muthén, 2004). However, presence of non-normal data is common in social science research. One way to deal with non-normal distributions is data transformation. However, transformation means that the variable's original metric is lost and that interpretation of the results must be made in the metric of the transformed scores (Kline, 1998). Using Mplus, it is possible to utilize MLR as an estimator for non-normally distributed data without data transformation. Using MLR (also referred to as Yuan-Bentler T_2 test statistics) results in maximum likelihood parameter estimates with standard errors and chi-square test statistics that are robust to non-normality.

The measures used to assess the core constructs in this study are on a Likert scale. The response categories for these measures range from 4 to 7 categories. Although these Likert scale items are attempting to measure individuals' positions on an underlying continuous construct, these items themselves typically are coarsely categorized. Blindly treating these Likert items as continuous variables in factor analysis and SEM will give rise to problems such as attenuated correlations (Muthén & Muthén, 2004). In Mplus, it is possible to model ordinal variables. According to Muthén and Muthén (2004), there are

two ways to analyze ordinal variables. If an ordinal variable has strong floor/ceiling effect (i.e., 25% or more of responses are in the lowest/highest response category), considering this variable as categorical is preferable to treating it as continuous. On the other hand, if an ordinal variable does not have strong floor/ceiling effect, it is sensible to analyze the variable as continuous.

Missing observation is a common phenomenon in social research, especially in longitudinal studies, where attrition often occurs. About 21% of wave 1 participants dropped from the follow-up study. The bias analysis indicated that the participants who dropped and those who stayed in the study were comparable in terms of socio-demographic characteristics, indicating that missing patterns in this study were missing at random. Using Mplus, it is possible to employ the optimal Full Information Maximum Likelihood (FIML) approach to handle missing data when variables are continuous (Muthén & Muthén, 2004). The FIML approach makes use of all available data to generate maximum likelihood-based sufficient statistics. The Mplus missing data approach is pair-wise deletion for categorical/ordinal variables.

The evaluation of model fit is based on recommendations by Hu and Bentler (1999) and by Muthén and Muthén (2004). The specified model was evaluated for goodness-of-fit by examining the χ^2, Root Mean Square Error of Approximation (RMSEA), Comparative Fit Index (CFI), Tucker Lewis Index (TLI), and the Standardized Root Mean Squared Residual (SRMR) or Weighted Root Mean Square Residual (WRMR) in the case of categorical/ordinal variable modeling. A good fit is denoted by a non-significant chi-square; a CFI and TLI of .95 or greater (1 indicates a perfect fit); an RMSEA of .06 or less; and an SRMR of .08 or less, or a WRMR of 1 or less.

RESULTS

The result chapter is composed of two major sections: measurement models and full structural models.

Measurement Models

Factor analyses were conducted to test and refine the measures of latent constructs in the theoretical models (Figures 1 to 3). The procedure for measurement work is described below.

First, prior to factor analysis, bivariate correlations among items designed to assess a scale or subscale were examined. Floyd and Widaman (1995) suggest that items of a given scale should correlate at least moderately ($r >= .20$) with each other. Otherwise, items may behave poorly in a factor analysis. In the current analysis, an item was deleted if half of its correlations with other items on the same scale/subscale were below .20. Items that had negative correlations with other items on the same construct were discarded as well.

Second, the data were subject to exploratory factor analysis (EFA). For each construct, guided by the factor structure emerging from the EFA, a confirmatory factor analysis (CFA) model was specified and tested. In some cases, results from a tentative CFA model were also used to further revise the factor structure of a construct. According to Floyd and Widaman (1995), a confirmatory procedure can be used to revise and refine instruments and their factorial structure, although this approach is primarily used for confirmation of theories.

For all the constructs examined in this study, the hypothesized CFA models did not initially allow any residual correlation. When hypothesized CFA models did not show satisfying model fit, residual correlation was allowed to enhance model fit. The decision

to allow a given residual correlation was not based on statistical considerations alone. Rather, any residual correlation was allowed on substantive and theoretical bases (Kline, 1998; Loehlin, 1998). In this study, correlated residuals were only introduced between the indicators of a given factor that were conceptually related to each other.

The results of EFAs and CFAs for each core construct are reported below. Because EFA results served as a rough guide for specifying factor structure in confirmatory analysis, more importance was attached to CFA results than to EFA results. Thus, this section gives passing reference to EFA results and provides more detailed information on the CFA results.

For most of the scales examined, one or more items were deleted either on the basis of inter-item correlations or on the basis of factor analysis. Reasons for deleting item(s) for a certain scale are presented in the note section of measurement model tables (Tables 1-8).

Acculturation

In the current study, acculturation was assessed by the adapted Vancouver Index of Acculturation (Ryder et al., 2000), which consists of two subscales: Chinese orientation and American orientation. There were 20 items proposed in the original scale. Ten items corresponded to the Chinese orientation subscale and another 10 items to the American orientation subscale. Ryder et al. (2000) have demonstrated that the VIA subscales have sound psychometric properties, with three different undergraduate samples including an ethnic Chinese sample. In the present study, factor analyses were conducted to test how well the VIA tapped acculturation levels of mothers and fathers in the sample. As this study aimed to examine Chinese orientation and American orientation independently in the structural model, factor analyses were conducted for the Chinese orientation subscale and the American orientation subscale separately.

Frequency distribution of the acculturation items showed few floor/ceiling effects. Thus it was plausible to treat these items as continuous in factor analysis (Muthén & Muthén, 2004). Due to the non-normal distributions of the acculturation items, the MLR estimator was adopted in the confirmatory factor analysis to adjust for any non-normality of the data (Muthén & Muthén, 2004).

Chinese Orientation

As shown in Table 1, for both mothers and fathers, three items – "enjoy social activity with Chinese," "comfortable working with Chinese," and "Chinese friends" – were discarded on the basis of either inter-item correlations or factor analysis. When refining a scale, the consequences of dropping any item should be considered (Loehlin, 1998). The three discarded items tapped into the interpersonal aspect of acculturation experience. Among the remaining seven items, one item, "marry Chinese," assessed the interpersonal aspect as well. Thus, deletion of the three items should not have the serious consequence of neglecting entirely the interpersonal aspect of acculturation experience.

For both mothers and fathers, and at both waves, EFA results on the remaining seven items indicated that a one-factor model would be adequate. Thus, it was hypothesized that Chinese orientation was assessed by these seven items: "Chinese tradition," "marry Chinese," "Chinese entertainment," "Chinese behavior," "Chinese cultural practices," "Chinese cultural values," and "Chinese humor" (Table 1).

At wave 1, for both mothers' and fathers' reports, the hypothesized one-factor Chinese orientation model did not achieve satisfying model fit. Thus, residual correlations between items were allowed for both mothers' and fathers' models. For both mothers and fathers, error correlation between "Chinese humor" and "Chinese entertainment" and error correlation between "Chinese cultural values" and "Chinese cultural practices" were allowed. The rationale for freeing these two error correlations

was that the first pair of items both assessed entertainment aspects and the second pair of items both tapped the respondents' endorsement of Chinese culture and tradition. The modified models showed good model fit (CFI=.96-.98, TLI=.93-.96, RMSEA=.05-.06, SRMR=.03-.04). Moreover, factor loadings were statistically significant, and their values ranged from .32 to .72.

At wave 2, for both mothers' report and fathers' reports, the hypothesized one-factor Chinese orientation model demonstrated good model fit. Although the chi-square was significant, the other fit indices showed adequate fit (CFI=.95-.96, TLI=.92-.94, RMSEA=.08, SRMR=.04). Factor loadings were statistically significant with values ranging from .35 to .77.

American Orientation

For both mothers and fathers, the item "mainstream American culture" was deleted as suggested by exploratory factor analysis (Table 2). After deleting this item, EFAs were re-conducted on the remaining nine items, and the results suggested one factor. Hence, the CFA model for American orientation was specified as a one-factor model assessed by the remaining nine items (Table 2). The one-factor American orientation models did not fit the data very well except for mothers' American orientation at wave 1. Therefore, residual correlations were included to enhance model fit. The residual correlations are discussed below.

For fathers' American orientation at wave 1, the error correlation allowed was between "comfortable working with Americans" and "enjoy activities with Americans." For fathers' American orientation at wave 2, "interested in having American friends" and "enjoy activities with Americans" were correlated. For mothers' American orientation at wave 2, four error correlations were allowed to obtain good model fit. These error correlations occurred between "comfortable working with Americans" and "enjoy

activities with Americans," "interested in having American friends" and "comfortable working with Americans," "interested in having American friends" and "enjoy activities with Americans," and "enjoy activities with Americans" and " marry an American." All the error correlations occurred between items assessing the same aspect of acculturation experience — interpersonal relationships. It could be concluded that correlating the errors of these items was theoretically sensible and meaningful.

The finalized models fit the data well, as indicated by a CFI greater than .95, a TLI greater than .90, an RMSEA of .06, and an SRMR less than .08 (Table 2). The items loaded on the American orientation factor, with statistically significant loadings ranging from .39 to .79.

Parental Warmth

Parental warmth was assessed by eight items adapted from the Iowa Youth and Families project (Ge, Best, Conger, & Simons, 1996). The items on the warmth scale were moderately or highly correlated (r = .37- .83). Thus, all eight items were submitted to exploratory factor analysis.

The warmth items were Likert variables with seven response categories. For most of the items on the parental warmth scale, more than 25% of responses fell in the highest category (i.e., showed strong ceiling effects) (Muthén & Muthén, 2004). Therefore, the warmth items were treated as ordinal during factor analysis.

Results from exploratory factor analyses suggested that item 1, "act loving and caring," and item 2, "let child know you appreciate the child," did not group with the other six items on the original parental warmth scale. Thus, items 1 and 2 were discarded from subsequent analyses. On the basis of EFA on the remaining six items (RMSEA=.05-.13; RMSR=.02-.04), a one-factor CFA model was specified for each informant at each wave. Overall, the one-factor model could not achieve satisfying model fit. Modification

index outputs showed that large modification indices frequently occurred for the error correlations between item 11, “have a good laugh with child about funny things,” and other items on the scale. However, adding the error correlations between item 11 and others did not make substantive sense. Thus, item 11 on the warmth scale was dropped in addition to items 1 and 2 (Table 3).

Loehhlin (1998) recommended careful consideration before dropping any item when refining a scale. The three discarded items tapped the affectionate and demonstrative aspects of parental warmth. Although the meaning of the item “have a good laugh with child about funny things” was not captured by the remaining items, the deleted items “act loving and caring” and “let child know you appreciate the child” could find a parallel in those remaining, such as “let child know you care about child” and “act supportive and understanding.” Thus, the remaining items were still conceptually adequate for defining the latent warmth construct.

As shown in Table 3, the finalized CFA model for parental warmth was a one-factor model containing five items: “help child do important things,” “listen to child’s thought,” “let child know you care about child,” “ask for child’s opinion,” and “act supportive and understanding towards child.” For fathers' warmth at wave 1 and mothers' warmth at wave 2, this proposed model fitted the data well. For mothers' warmth at wave 1, correlated residuals between the items “help child do things important to child” and “let child know you care about child” were allowed in order to achieve satisfying model fit. The two items were conceptually related, since “help child do things important to child” was a behavior that showed parental care about the child. The CFA model for fathers' warmth at wave 2 required three residual correlations to obtain good model fit. Two correlations were between item “ask for child’s opinion” and items “listen to child’s thoughts” and “act supportive and understanding.” The error correlations for these two

pairs of items were sensible, since all these items assessed how much parents cared about the child's thoughts and opinions. A correlated residual between "ask for child's opinion" and "let child know you care about child" was also allowed because the first item was a behavior that demonstrated parental care and appreciation for the child.

Overall, the finalized measurement models for parental warmth fit the data well, as indicated by CFIs and TLIs equal or close to 1, WRMRs much less than 1, and RMSEAs ranging from .00 to .07 (Table 3). All the items had significant loadings on the warmth factor, with values ranging from .64 to .85.

Punitive Parenting

Punitive parenting was assessed by four items from Block's Child-rearing Beliefs and Practices (CRPR) (see Appendix B). Most of the punitive items indicated strong floor effects, since 25% or more cases were concentrated in the lowest response category. Thus, these items were considered as ordinal variables in factor analysis.

Mplus yields only one factor when there are four items in an EFA model. Hence, the EFA procedure was omitted. For both mothers and fathers at both waves, the hypothesized CFI model of punitiveness was a one-factor model assessed by the four punitive items (Table 4). This model achieved good model fit for fathers, as suggested by non-significant chi-square values, CFIs at 1.00, TLIs at 1.01, RMSEAs at .00, and WRMRs at less than 1 (Table 4).

However, the four-indicator one-factor model failed for mothers, and adding error correlations between items could not improve model fit. The factor loadings indicated that the item "parents decide rules" loaded more weakly on the latent construct than the other items. Thus, this item was dropped. After dropping this item, three indicators remained. Because a three-indicator CFA model is a saturated model, it cannot be evaluated statistically. One way to test a three-indicator model is to test it in a

structural model. Therefore, for mothers, a structural model was specified in which wave 1 maternal punitiveness was hypothesized to predict wave 2 maternal punitiveness. This model is displayed in the figure inside Table 4. This model fitted the data well (χ^2 (6)=9.95, p =.13, CFI=.99, TLI=.99, RMSEA=.04, WRMR=.47), with both structural path and factor loadings statistically significant. The results suggested that the construct of maternal punitiveness could be adequately assessed by the three indicators "punish without explanation," "discipline first," and "use threats" at each wave.

Non-democratic Parenting

Non-democratic parenting was assessed by four items from Block's Child-rearing Beliefs and Practices (CRPR) (see Appendix B). The non-democratic items were considered as ordinal in factor analysis due to their strong floor effects.

For both parents, the item "consider child's desire before asking child to do something" was dropped either on the basis of low inter-item correlations or on the basis of factor analysis. Thus, only three indicators remained for assessing non-democratic parenting (Table 5). The three remaining items were specified to load on one factor. However, it is impossible to test a three-indicator CFA model statistically because it is a saturated model. Following the same method used to test the measurement model of maternal punitiveness described earlier, a structural model was tested for each informant at each wave, where wave 1 non-democratic parenting was hypothesized to predict wave 2 non-democratic parenting. The structural model is depicted in the figure inside Table 5. The models were a good fit to the data (mother: χ^2 (6)=23.78, $P < .001$, CFI=.98, TLI=.97, RMSEA=.08, WRMR=.72; father: χ^2(6)=12.57, P =.05, CFI=.99, TLI=.99, RMSEA=.05, WRMR=.48). Both the structural path and factor loadings were statistically significant. Factor loadings ranged from .58 to .88. These results converged to show the soundness of the measurement model, in which non-democratic parenting was assessed

by the three items "free expression," "consider child's preference," and "allow child input into family rule."

Family Obligation

Parental attitudes toward family obligations were assessed through the family obligation instrument developed by Fuligni et al. (1999). These family obligation measures were developed with an ethnically diverse sample of adolescents, including adolescents of Chinese background. Fuligni et al. (1999) proposed three distinct but conceptually related scales of family obligation: respect for the family, current assistance to the family, and future support to the family.

In Fuligni et al.'s study of adolescents' own attitudes toward family obligation (1999), exploratory factor analyses were conducted for each subscale separately. Results indicated that a one-factor model should be sufficient to represent the factor structure of each scale (Fuligni et al., 1999). The three scales have been used separately (Fuligni et al., 1999) or in combination (i.e, scores were standardized and combined into one index for attitudes towards family obligation) (Tseng, 2004). In the present study, the current assistance items and the future support items were closely related in terms of their conceptual meaning, so they were combined to measure a single factor: "support." Factor analyses were then conducted for the two dimensions of family obligation, "respect" and "support," separately.

At wave 1, for both mothers and fathers, over half of the items on the respect and support dimensions had either floor or ceiling effects; thus, these items were considered as ordinal in the factor analyses. At wave 2, only one item, "treat you with respect," had a strong ceiling effect; thus, respect and support items at wave 2 were treated as continuous in the factor analyses.

Exploratory analyses for the respect scale indicated that a one-factor model should be adequate for the five items designed to assess respect and deference to parents and family. With reference to the six items on the support scale, the exploratory analysis suggested that the items "eat meals with the family," "live at home until married," and "live with parents when parents get older" might not group together with the other items, so these three items were deleted from future analyses (Table 6).

Support

As displayed in Table 6, the items "time with family," "runs errands," "helps out," and "future financial help" were specified to measure the factor *support for family*. The one-factor model fitted the data well for fathers' reports at both waves and mothers' reports at wave 2, but the model did not fit the data well for mothers' reports at wave 1. To improve the model fit for mothers' reports at wave 1, one error correlation between items "runs errands" and "future financial help" was allowed. This correlation had substantive meaning, since both items were tapping behaviors that provide instrumental assistance to the family. Overall, the one-factor model of support showed excellent model fit, as indicated by non-significant chi-square values, CFI and TLI >= 1.00, RMSEA <.06, WRMR<1 or SRMR<.08, and statistically significant factor loadings (ranging from .41 to .88). The TLI values at wave 2 were slightly greater than 1. It is possible for the TLI to have a value greater than 1 when the fit of an over-identified model is almost perfect (Kline, 1998).

Respect

As shown in Table 6, the items "respect," "follows advice about friends," "does well for the family," "follows advice about future," and "makes sacrifices" were hypothesized to load on the factor *respect*. Initially, this model could not achieve good model fit for all informants at both waves. Thus, the correlated unique variances were

allowed to improve model fit. For fathers' reports at wave 1 and mothers' reports at wave 2, errors on the items “respect” and “follows advice about friends” were correlated; for fathers' reports at wave 2, errors on “does well for the family” and “makes sacrifices” were correlated. For mothers' reports of respect at wave 1, there were two correlated errors: between the items “respect” and “follows advice about friends,” and between “does well for the family” and “makes sacrifices.” These error correlations were plausible because they occurred among items that were conceptually meaningful. Specifically, both “respect” and “follows advice about friends” were assessing respect and deference to parents; both “does well for the family” and “makes sacrifices” were assessing doing things for the sake of family. The model fit indices of the finalized models with error correlations are shown in Table 6. For the models of respect, CFI, SRMR, and WRMR values met the criteria indicating good model fit (CFI>.95, SRMR<.08, and WRMR<=1.00). The values of TLI ranged from .93 to a perfect 1.00, and the RMSEA values ranged from .03 to 1.0. A TLI of .93 and an RMSEA of 1.0 indicated acceptable, although not optimal, model fit. Taken as a whole, the hypothesized model of respect showed adequate model fit to the data.

Depressive Symptoms

In this study, both parental depressive symptoms and adolescent depressive symptoms were assessed by the Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977). While parents and adolescents reported on their own depressive symptoms, parents provided information on adolescent depressive symptoms as well. Because utilizing multi-reporter measures helps to minimize potential bias due to a shared method of measurement (Bank, Dishion, Skinner, & Patterson, 1990), reports from all three informants were used to assess adolescent depressive symptoms. This

section addresses measurement models for each informant first. At the end, the multi-informant measurement model of adolescent depressive symptoms is presented.

Radloff (1977; 1991) originally identified a structure with four factors: depressive affects, interpersonal relationships, somatic complaints, and positive affects. Research has traditionally supported this four-factor structure in the Western cultural context (Crockett, Randall, Shen, Russell, & Driscoll, 2005). Research has also found this four-factor structure in a Chinese adolescent sample (Greenberger & Chen, 1996). Further, Ying et al. (2000) showed that Chinese American college students' conception of the CES-D approximated the four-factor structure. Some research exploring CES-D in Asian American populations has suggested the possibility of slight cultural differences in the factor structure between different cultural groups (Noh, Kaspar, & Chen, 1998; Ying, 1988). For example, Ying's research (1988) revealed an inseparability of the affective and somatic structures in a community-based Chinese-American sample. Noh et al. (1998) found a response bias by Asians: Asians were more reluctant to endorse positive affect items than European Americans.

Prior to factor analysis, inter-item correlations were scrutinized for each subscale and for the entire set of CES-D items. For parental reports of both their own and adolescent CES-Ds, three positive affect items ("good as others," "hopeful," "enjoy life") were deleted due to their negative or very weak (around zero) correlations with items on the other subscales (Table 7).

Parental Depressive Symptoms

On the basis of exploratory factor analysis, a three-factor CFA model was specified for parental depressive symptoms (Figure 4). The remaining reverse-coded positive affect item "happy" was added to the depressive affect subscale. Thus, parental depressive symptoms consisted of three factors: somatic complaints, interpersonal

relations, and depressive affects (including reversed coded "happy"). As shown in Table 7, the hypothesized model fit the data adequately for both parents at both waves (CFI=.94-.96, TLI=.98, RMSEA=.07-.09,WRMR=.95-1.00). All items had significant loadings on the factor they were designated to assess. The factor loadings ranged from .30 to .93. Correlations between the factors were also statistically significant.

As the measurement model of parental depressive symptoms contained 17 items and three subscales, its inclusion in a structural model would lead to a very low ratio of parameters to participants. Thus, items that loaded on each subscale were averaged to serve as an indicator of that subscale. The resulting measurement model for parental depressive symptoms was that parental depressive symptoms were measured by three indicators: depressive affects, somatic complaints, and interpersonal relationships. The simplified model was used in the structural models displayed in Figures 2 and 3.

Adolescent Depressive Symptoms

As displayed in Figure 5, the factor structure of adolescent depressive symptoms according to adolescent report was equivalent to that identified by Radloff (1977, 1991) in the general population in the U. S. With respect to parental report on adolescent depressive symptoms, the factor structure was equivalent to parents' reports of their own depressive symptoms (Figure 4). The hypothesized models fitted the data adequately. All finalized models, except the model of mothers' reports of adolescent depressive symptoms at wave 1, did not include residual correlation. For adolescent depressive symptoms according to mothers' reports, a residual correlation between two conceptually similar items, "trouble focusing" and "everything was an effort," were allowed (Table 8).

As shown in Table 8, the individual adolescent depressive symptoms model by each informant achieved adequate model fit (CFI=.93-.96, TLI=.97-.99, RMSEA=.06-.08, WRMR=.86-.99). The multiple-informant adolescent depressive symptoms models

and their fit indices are displayed in Figures 6 and 7 for wave 1 and wave 2 respectively (CFI = .97-.99, TLI = .96-.98, RMSEA=.04-.05, SRMR=.03-.04). All factor loadings were significant. The correlations among factors were significant, with values ranging from .35 to .74.

Structural Model

Descriptive Statistics

Means and standard deviations of the study variables for each informant (mother, father, and adolescent) are presented in Tables 9 and 10 for wave 1 and wave 2 respectively. Skewness and kurtosis values for the study variables are presented in Tables 11 and 12 for wave 1 and wave 2 respectively. As suggested by West, Finch, & Curran (1995), for continuous variables, an absolute value of skewness larger than 2 and an absolute value of kurtosis greater than 7 indicates serious non-normality. As shown in Tables 11 and 12, only a couple of items showed serious non-normality. The alpha levels for the study variables are displayed in the tables for evaluating measurement models (see Tables 1 to 8). Overall, the study variables showed acceptable to good reliability. For the non-democratic parenting scale, punitive parenting scale, and the interpersonal subscale of depressive symptoms, there were several low values of internal consistency (<.70). The low alphas may due to the fact that these scales/subscales contain only 2 to 4 items. According to John & Benet-Martinez (2000), the number of items on a scale is a determinant of alpha. Alpha may increase as the number of items increases. Conversely, alpha usually decreases as the number of items decreases (John & Benet-Martinez, 2000).

Zero-order Correlations among Study Variables

Tables 13 and 14 present correlations among parenting measures and measures of adolescent depressive symptoms for wave 1 and wave 2 respectively. The correlations

between maternal parenting and adolescent outcomes are shown below the diagonal, whereas those between paternal parenting and adolescent outcomes are shown above the diagonal. Tables 15 and 16 display correlations among parental acculturation, bicultural management difficulty, parental depressive symptoms, and parenting measures for wave 1 and wave 2 respectively. Correlations below the diagonal are for the relationships between mothers' acculturation and their parenting, whereas correlations above the diagonal are for the relationships between fathers' acculturation and their parenting.

Correlations between Parenting Practices and Adolescent Depressive Symptoms

In this study, adolescent depressive symptoms were assessed through mothers' reports, fathers' reports, and adolescents' reports, with each composed of three or four subscales (Figures 6 & 7). In order to facilitate the presentation of the relationships between parenting practices and adolescent depressive symptoms, a mean score for each informant's report on adolescent depressive symptoms was created. Thus, three indicators of adolescent depressive symptoms were obtained: maternal report, paternal report, and adolescent self-report of adolescent depressive symptoms. This section presents the associations between parenting variables (warmth, punitiveness, non-democratic parenting, and family obligation) and the three reports of adolescent depressive symptoms (wave 1, Table 13; wave 2, Table 14).

In the current study, parenting practices such as warmth, punitiveness, and non-democratic parenting were predicted to relate to adolescent depressive symptoms. In particular, warmth was hypothesized to have a negative relationship with adolescent depressive symptoms, and punitive and non-democratic parenting were hypothesized to have a positive relationship with adolescent depressive symptoms. No prediction was made for the relationships between family obligation and adolescent depressive symptoms due to lack of previous research.

For parental warmth, punitive parenting, and nondemocratic parenting, significant correlations with adolescent depressive symptoms according to parental reports emerged for both parents at both waves (Tables 13 & 14). Moreover, these correlations were all in the hypothesized directions. Specifically, for both mothers and fathers, higher levels of parental warmth were related to fewer depressive symptoms in adolescents (according to parental reports), whereas higher levels of punitive and non-democratic parenting were related to more depressive symptoms in adolescents (again, according to parental report) (Tables 13 & 14).

With reference to family obligation measures at wave 1 (Table 13), for both mothers and fathers, there were significant correlations between the *respect* scale and adolescent depressive symptoms, but the *support* scale did not show significant relationships to adolescent depressive symptoms. Specifically, the more importance mothers attached to adolescents' respect for family, the fewer adolescent depressive symptoms the adolescents had, as reported by both parents and adolescents themselves. Similarly, fathers' emphasis on adolescents' respect for family was significantly related to fewer adolescent depressive symptoms, as reported by fathers. At wave 2 (Table 14), for both fathers and mothers, family obligation measures (*respect* and *support*) did show significant relationships to adolescent depressive symptoms.

Correlations between Parental Acculturation and Parenting Practices

Recall that it was hypothesized that while Chinese orientation may be associated with more punitive parenting, more non-democratic parenting, and greater endorsement of family obligation, American orientation may be associated with less punitiveness, less non-democratic parenting, and less endorsement of family obligation. No hypothesis was developed for parental warmth due to inconsistency among findings from previous

studies. As shown in Tables 15 and 16, significant associations between parental acculturation levels and parenting practices emerged within both waves.

At wave 1 (Table 15), for both parents, both Chinese orientation and American orientation were related to more parental warmth, less non-democratic parenting, and more endorsement of the respect dimension of family obligation. For mothers, but not for fathers, both Chinese orientation and American orientation were also related to more endorsement of the support dimension of family obligation. Moreover, mothers' American orientation related to less punitive parenting.

At wave 2 (Table 16), mothers' Chinese and American orientations were related to more parental warmth. Mothers' American orientation was related to less non-democratic parenting as well. For fathers, American orientation was associated with more warmth, less punitiveness, and less non-democratic parenting, whereas Chinese orientation was associated with higher ratings on the two dimensions of family obligation: respect and support.

Overall, within both waves, the correlations found between parental acculturation and parenting practices were in the predicted directions.

Correlations between Parental Acculturation, Bicultural Management Difficulty, and Parental Depressive Symptoms

At wave 1 (Table 15), as predicted, for both mothers and fathers, American orientation was related to lower levels of bicultural management difficulty, whereas Chinese orientation was related to higher levels of bicultural management difficulty. For both parents, while American orientation was related to fewer parental depressive symptoms, Chinese orientation did not relate to parental depressive symptoms.

At wave 2 (Table 16), for fathers, the patterns of correlations of acculturation, bicultural management difficulty, and depressive symptoms were consistent with wave 1 findings. That is, while fathers' Chinese orientation was associated with higher levels of

bicultural management difficulty, fathers' American orientation was associated with lower levels of bicultural management difficulty and fewer depressive symptoms. For mothers at wave 2, the only significant correlation was that Chinese orientation related to higher levels of bicultural management difficulty.

For both mothers and fathers at both waves (Tables 15 & 16), higher levels of bicultural management difficulty were consistently related to more depressive symptoms in parents, which was in the hypothesized direction.

Correlations between Parental Depressive Symptoms and Parenting Practices

As expected, for both parents at both waves (Tables 15 & 16), parental depressive symptoms were significantly related to less parental warmth and more punitive parenting. Consistent with the hypothesis, at wave 2 (Table 16), mothers' depressive symptoms were associated with more non-democratic parenting behaviors.

Another significant correlation between parental psychological well-being and parenting practices was that fathers' depressive symptoms were related to less endorsement of respect within wave 1 (Table 15).

Structural Model Results: Examining the Relationships between Parenting Practices and Adolescent Depressive Symptoms

Recall that the first research question was how parenting behaviors and adolescent depressive symptoms were related during the development stages of early and middle adolescence. The aspects of parenting examined included parental warmth, punitive parenting, non-democratic parenting, and parental attitudes toward family obligation. The relationships between parenting practices and adolescent outcomes were tested in a model in which parenting measures were specified to predict adolescent depressive symptoms by multi-informant reports (mother, father, and adolescent) (Figure 1). As

shown in Table 17, all the structural models demonstrated good model fit (CFI =.95-.98, TLI=.93-.97, RMSEA=.03-.05, and SRMR=.04-.05).

Parenting Practices and Adolescent Depressive Symptoms at Wave 1

At wave 1, for both parents, higher levels of parental warmth were associated with fewer depressive symptoms in adolescents, while higher levels of parental punitiveness were associated with more depressive symptoms in adolescents. For mothers, higher levels of non-democratic parenting were associated with more depressive symptoms in adolescents as well. There was no association between fathers' non-democratic behavior and adolescent depressive symptoms.

With reference to family obligation measures, both parents' endorsement of the respect dimension was associated with fewer depressive symptoms in adolescents, while there was no significant relationship between parents' endorsement of the support dimension with adolescent outcomes.

Parenting Practices and Adolescent Depressive Symptoms at Wave 2

At wave 2, with respect to mothers' behaviors, parental warmth, punitive parenting, and non-democratic parenting showed significant relationships to adolescent depressive symptoms. The results echoed what was found in wave 1. Specifically, higher levels of parental warmth were related to fewer adolescent depressive symptoms, while higher levels of punitiveness and non-democratic parenting were related to more adolescent depressive symptoms. The relationship between mothers' endorsement of respect for the family and adolescent depressive symptoms was not statistically significant in wave 2.

Only one significant relationship between parenting practices and adolescent psychological well-being emerged for fathers at wave 2. That is, more paternal warmth was linked to fewer depressive symptoms in adolescents.

In summary, the relationships found between parenting behaviors and adolescent depressive symptoms in the structural models were mostly consistent with the results from correlation analyses and the hypotheses formulated for this study. For parental warmth, higher levels of parental warmth were consistently related to fewer adolescent depressive symptoms. For punitive parenting, higher levels of punitive parenting were related to more adolescent depressive symptoms. With respect to non-democratic parenting, higher levels of mothers' non-democratic parenting were linked to more depressive symptoms in adolescents. However, fathers' non-democratic parenting did not show a significant relationship to adolescents' depressive symptoms. With reference to family obligation, while parents' emphasis on respect and deference to family was related to adolescent depressive symptoms, parents' endorsement of family support had no relation to adolescent depressive symptoms. When the participating children reached middle adolescence, the relation found between parental endorsement of respect and adolescent depressive symptoms during early adolescence no longer existed.

Structural Model Results: Examining the Relationships between Parental Acculturation and Parenting Practices

Concurrent Relationships between Parental Acculturation and Parenting Practices

The concurrent interrelationships between parental acculturation, parental bicultural management difficulty, parental depressive symptoms, and parenting behaviors (Figure 2) were examined for the parenting behaviors that demonstrated significant associations with adolescent depressive symptoms at each wave. Specifically, the following parenting constructs were examined: mothers' warmth, punitive parenting, nondemocratic parenting, and endorsement of respect for family at wave 1; fathers' warmth, punitive parenting, and endorsement of respect for family at wave 1; mothers' warmth, punitive parenting, and non-democratic parenting at wave 2; and fathers'

warmth at wave 2. The structural models are depicted in Figures 8 to 18. Results within wave 1 are addressed first, followed by results within wave 2. Within each wave, results are presented for mothers and fathers separately.

Initially, the proposed theoretical model (Figure 2) was tested for each parenting concept for each informant. In order to obtain a parsimonious model accounting for the relationships between acculturation and parenting behaviors, paths that were consistently insignificant across informants and waves were discarded. The test of the proposed theoretical model showed that the interaction term between American orientation and Chinese orientation emerged only for mothers' punitive parenting at wave 1 and fathers' parental warmth at wave 1. Thus, the interaction term was retained for these two models but not for others. Moreover, it was consistently found that the direct path from Chinese and American orientations to parental depressive symptoms was not significant, with one exception: American orientation was directly related to fewer depressive symptoms in fathers at wave 2. Thus, this direct link was retained for the fathers' model at wave 2. For other models, the direct path from acculturation to parental depressive symptoms was discarded. The finalized models are displayed in Figures 8 to 18. For all the finalized models in Figures 8 to 18, model fit indices indicated that they fit the data well (CFI = .96-1.00, TLI = .91-1.02, RMSEA = .00-.05, SRMR = .02-.03).

Wave 1 results. Figures 8 to 11 present models for mothers at wave 1. The model in Figure 8 tested how mothers' acculturation was related to maternal warmth. As shown in Figure 8, both Chinese orientation and American orientation were directly related to parental warmth. Mothers showed more parental warmth if they had higher levels of Chinese orientation (β =.12, $p < .05$) or higher levels of American orientation (β =.15, $p < .05$). In addition to the direct connection to maternal warmth, American orientation was also linked to maternal warmth through the mechanisms of bicultural management

difficulty and depressive symptoms. Specifically, higher levels of American orientation were related to lower levels of bicultural management difficulty, which in turn were linked to fewer parental depressive symptoms, which in turn were related to more maternal warmth. This indirect effect from acculturation, bicultural management difficulty, and depressive symptoms to maternal warmth was statistically significant (β = .01, $p < .05$). Thus, the relationship between American orientation and maternal warmth was partially mediated by acculturative distress, as represented by bicultural management and maternal depressive symptoms. In this model, 13% of the variance in maternal warmth was explained.

The structural model in Figure 9 refers to the interrelationships between mothers' acculturation and mothers' punitiveness. In this model, mothers' American orientation showed an indirect relationship to maternal punitivess. Specifically, higher levels of American orientation were related to less bicultural management difficulty, while less bicultural difficulty was related to fewer depressive symptoms, which related to less punitive parenting. This indirect effect of American orientation on maternal punitiveness was statistically significant (β = - .01, $p < .05$).

In this model (Figure 9), there were significant relationships between both Chinese and American orientations and mothers' punitive behaviors. In addition, the interaction term between the two orientations had a significant effect on mothers' punitiveness (β = -.09, $p <.05$). Following Aiken & West's approach (1991), simple slope analysis was conducted and the significant interaction between the two orientations was plotted in Figure 19. The simple slope analysis showed that when mothers' American orientation was one standard deviation above the mean, mothers' Chinese orientation was not associated with mothers' punitiveness (β = -.02, p = .77). However, when mothers' American orientation was one standard deviation below the mean, higher levels of

Chinese orientation were associated with more punitive behaviors of mothers (β = .14, p < .01).

The model in Figure 10 examined the relationships between mothers' acculturation and mothers' nondemocratic parenting. Contrary to the hypothesis, mothers' Chinese orientation was directly linked to less non-democratic parenting (β = -.15, p < .05). Consistent with the hypothesis, American orientation was directly linked to less non-democratic parenting (β = -.13, p < .05). Although in this model, American orientation was also linked to less bicultural management difficulty, which was related to fewer parental depressive symptoms, there was no significant relationship between mothers' depressive symptoms and their non-democratic parenting behaviors.

In Figure 11, mothers' acculturation and their endorsement of the respect dimension of family obligation were examined. Higher levels of Chinese orientation were associated with more endorsement of adolescents demonstrating respect for family (β = .13, p < .05). Mediation effects of bicultural management difficulty and maternal depressive symptoms were not found, since parental depressive symptoms were not associated with mothers' endorsement of respect for the family.

The four models presented above examined how maternal acculturation was associated with maternal parenting at wave 1. In summary, for mothers at wave 1, results suggested that American orientation was related to some parenting behaviors (warmth and punitiveness) through the mechanism of parental bicultural management difficulty and parental depressive symptoms as well as through the direct influence of cultural factors.

Consistent with the hypothesis, American orientation was directly associated with more parental warmth and less non-democratic parenting. But in contrast to the hypothesis that Chinese and American orientations may be associated with warmth and

non-democratic parenting in opposite directions, Chinese orientation was related to more warmth and less non-democratic parenting as well.

Figures 12 to 14 present the structural models for fathers at wave 1. As shown in the model of father's warmth in Figure 12, both Chinese and American orientations of fathers were related to warmth through the mechanism of bicultural management difficulty and fathers' depressive symptoms. Specifically, higher levels of Chinese orientation were associated with higher levels of bicultural management difficulty, which were related to more depressive symptoms, which in turn were related to less parental warmth. On the other hand, higher levels of American orientation were associated with lower levels of bicultural management difficulty, which were related to fewer depressive symptoms, which in turn were related to more parental warmth. Tests of indirect effects indicated that both paths from acculturation to parental warmth described above were statistically significant (for Chinese orientation, β = - .01, $p < .05$; for American orientation, β = .01, $p < .05$). Thus, bicultural management difficulty and fathers' depressive symptoms mediated the relationships between fathers' acculturation orientations and warmth.

In this model of fathers' warmth, American orientation was not directly related to fathers' warmth. Rather, both Chinese orientation and the interaction term between Chinese and American orientations related directly to fathers' warmth (β=.16, $p < .05$; β=.14, $p < .05$). Simple slope analysis was conducted to explain the significant interaction effect. Moreover, the interaction effect was graphed in Figure 20. Simple slope analysis revealed that fathers' Chinese orientation did not relate to parental warmth if fathers' American orientation was one standard deviation below the mean (β=.06, p =.42). Conversely, higher levels of fathers' Chinese orientation related to more parental warmth if fathers' American orientation was one standard deviation above the mean (β=.26, $p <$

.001). The results suggested that the relationships between fathers' Chinese orientation and their parental warmth were moderated by their levels of acculturation towards American culture.

The interrelationships between fathers' acculturation and their punitive parenting are displayed in Figure 13. There was no direct link between acculturation and punitive parenting. Instead, the relationships between acculturation orientations and punitive fathering were mediated through bicultural management difficulty and parental depressive symptoms. Specifically, higher levels of Chinese orientation were related to higher levels of punitive parenting through higher levels of bicultural management difficulty and depressive symptoms. Conversely, higher levels of American orientation were associated with less punitive parenting through lower levels of bicultural management difficulty and depressive symptoms. Both indirect effects were statistically significant ($p < .05$).

Figure 14 presents the results for the model linking fathers' acculturation to fathers' endorsement of respect for the family. With reference to the respect dimension of family obligation, higher levels of Chinese orientation were related to more endorsement of respect for family (ß = .15, $p < .05$). Fathers' American orientation was not significantly related to fathers' attitudes toward respect for the family. The relationships between fathers' acculturation and their endorsement of respect for the family were not mediated through fathers' bicultural management difficulty and depressive symptoms, since fathers' endorsement of respect had no relationship to their depressive symptoms.

In summary, fathers' parenting behaviors, as assessed by western-based parenting measures (warmth and punitiveness), were associated with their acculturation levels through two mediating factors: fathers' bicultural management difficulty and depressive symptoms. With respect to their parenting behaviors as assessed by the culture-specific

measure of family obligation, fathers' bicultural management difficulty and depressive symptoms did not serve as a path whereby parental acculturation was linked to parenting behaviors.

Wave 2 results. For mothers at wave 2, the relationships between acculturation and parental warmth, punitive parenting, and non-democratic parenting were tested (Figures 15 to 17). Across these models, mothers' Chinese orientation did not have direct relationships with parenting practices. Rather, mothers' Chinese orientation was linked to warmth, punitive parenting, and non-democratic parenting indirectly through the mechanism of bicultural management difficulty and depressive symptoms. All these indirect effects were statistically significant (for warmth, $\beta = -.01$, $p < .05$; for punitive parenting, $\beta = .02$, $p < .05$; for non-democratic parenting, $\beta = .01$, $p < .05$). Specifically, higher levels of Chinese orientation were associated with more bicultural management difficulty, which in turn, was associated with more depressive symptoms in mothers. When mothers had higher levels of depressive symptoms, mothers demonstrated less parental warmth ($\beta = -.21$, $p < .05$), more punitive behaviors ($\beta = .27$, $p < .05$), and more non-democratic parenting practices ($\beta = .17$, $p < .05$). At wave 2, mothers' American orientation did not relate to bicultural management difficulty and depressive symptoms. Thus, mothers' American orientation was not associated with mothers' parenting practices through the mechanism of mothers' bicultural management difficulty and depressive symptoms. Rather, mothers' American orientation was directly linked to more parenting warmth ($\beta = .17$, $p < .05$) and less non-democratic parenting ($\beta = -.18$, $p < .05$).

For fathers at wave 2, the model linking acculturation to paternal warmth was examined (Figure 18). Fathers' American orientation related directly to higher levels of parental warmth ($\beta = .17$, $p < .05$). As shown in Figure 18, fathers' American orientation was related to fewer depressive symptoms in fathers ($\beta = -.19$, $p < .05$). And fathers'

depressive symptoms were negatively associated with paternal warmth (β =-.16, $p < .05$). However, the test of indirect effect of American orientation on fathers' warmth (the path from American orientation to depressive symptoms to parental warmth) was not statistically significant. Therefore, the relationship between fathers' American orientation and warmth was not mediated through fathers' depressive symptoms.

Taken together, for both mothers and fathers, for the parenting constructs that are western-based, results indicated that parental acculturation levels were related to parenting practices through cultural factors as well as parental psychological adjustment. For the cultural-specific aspect of parenting practices, acculturation was related to parenting through cultural factors rather than parents' bicultural management difficulty and psychological adjustment.

Relationships between Parental Acculturation at Wave 1 and Parenting Practices at Wave 2

In Figure 3, a model was proposed to examine whether parental acculturation, bicultural management difficulty, and depressive symptoms at wave 1 predicted parenting practices at wave 2. The model controlled for parents' SES status (family income and parental education) at wave 1 and child gender. Considering that both parents' endorsement of adolescent support for family did not relate to adolescent depressive symptoms at either wave, the relationships between wave 1 parental acculturation and wave 2 parents' endorsement of adolescent support for family were not examined. Similarly, the relationships between wave 1 fathers' acculturation and wave 2 fathers' non-democratic parenting were not examined, as no significant relationship emerged for fathers' non-democratic behaviors and adolescent depressive symptoms.

The initial testing of the proposed model (Figure 3) showed that interaction effects between Chinese and American orientation were not statistically significant for all the parenting measures and for both parents. Moreover, the direct path from acculturation

to parental depressive symptoms was not significant. Thus, the interaction term and the direct path from acculturation to parental depressive symptoms were discarded in order to achieve a parsimonious model.

Table 18 displays the results for the structural models examining wave 1 parental acculturation and wave 2 parenting practices. All the models fit the data well, as indicated by CFIs of .97 or above, TLIs of .91 to 1.00, RMSEAs of .00 to .05, SRMRs of .02 to .03, and non-significant chi-square values in some cases. However, only two significant relationships between wave 1 acculturation and wave 2 parenting measures emerged, which are presented below.

For mothers, an indirect path from wave 1 American orientation to wave 2 mothers' punitive parenting was found (Figure 21). Specifically, within wave 1, higher levels of mothers' American orientation were associated with greater bicultural management difficulty, which was associated with more depressive symptoms in mothers. Across the waves, mothers' depressive symptoms resulting from acculturation experiences at wave 1 predicted mothers' punitiveness at wave 2 ($\beta = .27$, $p < .05$). This indirect path linking mothers' American orientation at wave 1, bicultural management difficulty at wave 1, and maternal depressive symptoms at wave 1 to mothers' punitiveness at wave 2 was statistically significant ($\beta = -.01$, $p < .05$).

Another significant cross-wave relationship occurred between fathers' wave 1 American orientation and wave 2 fathers' warmth. That is, for fathers, higher levels of American orientation at wave 1 predicted more parental warmth in fathers at wave 2 ($\beta = .16$, $p < .05$).

Control Variables in Structural Models

In this study, child gender, parental education, and family income served as control variables in all the structural models. Across the models, several consistent findings regarding these control variables emerged.

For parents, higher SES status (parental education and income) was associated with lower levels of Chinese orientation and higher levels of American orientation. For mothers, higher education and income levels were associated with lower levels of bicultural management difficulty. And higher income levels were associated with fewer depressive symptoms in mothers. For fathers, higher education levels related to lower levels of bicultural management difficulty.

With respect to parenting, parents showed more warmth and lower levels of punitive or non-democratic parenting towards girls as opposed to boys. For mothers, a higher level of education was associated with more maternal warmth. With respect to adolescent depressive symptoms, girls had more depressive symptoms than boys at wave 1 but not at wave 2. When parents had higher education levels, adolescent children had fewer depressive symptoms.

DISCUSSION

This study was guided by Szapocznik & Kurtines' (1993) model for the embeddedness of contexts within a culturally pluralistic milieu. Central to the model is an emphasis on the diverse and heterogeneous nature of the cultural context in which ethnic minority families operate. This study illustrates this diverse nature well, by examining the relationships between parental acculturation, parenting practices, and adolescent socio-emotional development in a sample of Chinese American families. Specifically, this study revealed that there were concurrent and longitudinal relationships between parental acculturation orientations and parenting practices. The study also showed that both culture-general and culture-specific parenting measures were important correlates of adolescent depressive symptoms.

Parenting in a Culturally Diverse Context

First, the current study indicates that it is important to evaluate both the culture-general and culture-specific aspects of parenting when examining parenting practices of minority parents. Previous research has primarily focused on culture-general aspect of parenting practices, such as parental control and parental warmth (e.g., Cheng, Liu, & Li, 2000). In the current study, the parenting practices examined included both culture-general parenting constructs (parental warmth, punitive parenting, and non-democratic parenting) and a culture-specific parenting construct (family obligation).

This study highlights the importance of developing and testing culture-specific parenting concepts of Asian/Asian American parenting. In the current sample, parents who maintained an endorsement of their heritage Chinese culture emphasized the importance of adolescents showing respect for the family, which was associated with better psychological well-being of adolescents. This indicates that for minority families in

the U. S., the value systems of their heritage culture are an integral part of both parents' and children's lives. To obtain a full understanding of minority families, it is necessary to have an understanding of their heritage culture, and to develop and examine parenting measures tapping aspects of parenting that are specific to their heritage culture.

Second, this study demonstrates that both parental acculturation towards the host American culture and parental acculturation towards the heritage Chinese culture are associated with variability in parenting practices. Assuming a uni-dimensional model of acculturation, previous research has examined how acculturation towards the host culture (i.e., departure from the heritage culture) was associated with immigrant parents' parenting practices. The current study showed that a bi-dimensional model of acculturation was appropriate to describe the acculturation experiences of the participating parents. For the parents in the current sample, acculturation towards the American culture and acculturation towards the Chinese culture were orthogonal. American orientation was associated with effective parenting, as characterized by more warmth, low punitiveness, and low non-democratic parenting, either by direct cultural influence, or through the mediating effects of lower parental bicultural management difficulty and fewer depressive symptoms. Chinese orientation was associated with effective parenting as well as ineffective parenting. For example, Chinese orientation was directly related to more warmth, low non-democratic parenting, and strong endorsement of family obligation, but it was also related to high punitive parenting. Taken together, it is important to evaluate both cultures together when examining parenting in the process of acculturation.

Third, this study represents an important step in elucidating our understanding of the interrelationships between parental acculturation, parents' bicultural management difficulty, parental depressive symptoms, and parenting behaviors. This study identifies

that the stressor of bicultural management difficulty may be a risk factor for disrupted parenting in the process of acculturation. Specifically, American orientation was related to less bicultural management difficulty, which in turn, was related to fewer parental depressive symptoms. In contrast, Chinese orientation was related to more bicultural management difficulty, which in turn, was related to more parental depressive symptoms. Through the mediating factors of bicultural management difficulty and depressive symptoms, parents' American orientation was associated with more effective parenting (more warmth and low punitive parenting), while parents' Chinese orientation was associated with less effective parenting (less warmth, high punitive parenting, and high non-democratic parenting).

Lastly, it is worth noting that the relationships between acculturation experience and parenting practices are not monolithic. For example, in the model linking paternal acculturation to paternal warmth at wave 1, fathers' Chinese orientation was directly linked to more warmth in fathers. In the same model, however, fathers' Chinese orientation was also indirectly linked to less warmth in fathers through the mechanisms of increased bicultural management difficulty and depressive symptoms in fathers. Thus, simply testing the direct relationship between acculturation and parenting is not sufficient. Relying on direct relationships alone may obscure indirect effects operating in a direction opposite from the direct effects. The study suggests that it is important to consider multiple ways (direct and indirect) in which acculturation influences parenting behaviors.

The follow sections proceed to a detailed discussion of the major findings.

Parenting Practices and Adolescent Depressive Symptoms

The first research question examined the associations between parenting practices (parental self-report on parental warmth, punitive parenting, non-democratic

parenting, and family obligation) and adolescent depressive symptoms (multi-informant report by the adolescent, the mother, and the father) during two stages of development: early adolescence and middle adolescence.

Culture-general Parenting Constructs

At both waves, mothers' parenting practices, as assessed by culture-general parenting measures that are western-based, were related to adolescent depressive symptoms in the predicted direction. That is, more maternal warmth was related to fewer depressive symptoms in adolescents while maternal punitive and non-democratic behaviors were related to more depressive symptoms in adolescents.

For fathers at wave 1, more paternal warmth was related to fewer adolescent depressive symptoms while fathers' punitiveness was related to more adolescent depressive symptoms. At wave 2, only paternal warmth showed significant negative relationships with adolescent depressive symptoms. At both waves, fathers' non-democratic behaviors were not associated with adolescent depressive symptoms.

Existing research has revealed that, in Chinese families, disrupted parenting practices are significantly related to adverse adolescent developmental outcomes. For example, in samples of Chinese or Chinese American families, lower levels of parental warmth and higher levels of domineering and excessive control are related to poorer psychological well-being in children and adolescents (Chiu et al., 1992; Crane et al., 2005; Florsheim, 1997; Greenberger & Chen, 1996; Greenberger et al., 2000; Yang et al., 2004). These relationships between parenting practices and child socioemotional outcomes among Chinese populations seem to echo those found among European Americans (Galambos et al., 2003; Ge, Best et al., 1996; Ge et al., 1994; Skinner et al., 2005). This similarity across cultures is corroborated by the findings from the current

study. It appears that some aspects of parental behavior, such as warmth and restrictive control, have universal adaptive or maladaptive meanings for children. This seems to hold true despite some possible group mean difference between cultures in these parental behaviors, such as more controlling behaviors in Chinese parents compared to European American parents (Chao, 1994; Kelley & Tseng, 1992).

Culture-Specific Parenting Construct

To the author's best knowledge, no study to date has examined parental endorsement of adolescents' fulfillment of family obligation and its implications for adolescent depressive symptoms. Previous studies (Fuligni & Pedersen, 2002; Fuligni et al., 1999; Fuligni & Zhang, 2004) have examined adolescents' or young adults' own endorsement of family obligation. This extant research provides some insights for the current study.

In this study, for both mothers and fathers, greater parental emphasis on adolescents' respect for the family related to fewer depressive symptoms in Chinese American adolescents. In a previous study of an ethnically diverse sample of young adults, those with a stronger sense of obligation to support, respect, and assist the family were more likely to report better emotional well-being (Fuligni & Pedersen, 2002). A sense of obligation to the family may offer young adults a responsible role to fulfill that gives meaning to their activities and life decisions and thus result in better psychological well-being (Fuligni & Pedersen, 2002). For the adolescents in the current study, it is possible that their parents impart an emphasis on family obligation to them, since parents are often the main socializing forces and the source of cultural values for children (Costigan & Dokis, 2006b). A sense of family obligation may very well provide these adolescents with a sense of identity and purpose during a developmental period when identity problems loom large, thereby producing a higher level of well-being in such

adolescents. The current study demonstrated that parental endorsement of adolescents showing respect for the family was related to better psychological well-being of adolescents. Examining why parental endorsement of respect for the family is associated with better psychological adjustments in children represents an important area for future research.

This study also examined parental endorsement of adolescents' support for their families, i.e., how important parents consider it to be that adolescent provide current assistance to the household and contribute financially to the family in the future. This study measured parental attitudes toward adolescents' support for the family rather than their actual requests for adolescents to assist the family. Whether parents' attitudes and beliefs regarding adolescents' support for the family may be translated into actual requests for assistance from adolescents is unknown. In this study, participating adolescents were attending schools at the time of data collection. Assisting the family could distract children from academic endeavors such as studying. Considering the overarching importance attached to education by Chinese and other Asian groups (Chao & Tseng, 2002), it is possible that parents may not request assistance from their children due to concerns about distracting children from their studies. It follows that parental endorsement of adolescents supporting the family appears to be a rather distal factor for adolescents. Indeed, in the current sample, for both mothers and fathers, parental endorsement of adolescents providing support for the family was unrelated to adolescent depressive symptoms.

Fathers Versus Mothers

In the present study, relationships between parenting and adolescent depressive symptoms were examined separately for mothers and fathers. Research on Chinese families has rarely examined fathers' parenting behaviors and their linkages to children's

developmental outcomes (Yang et al., 2004). This oversight may be partially attributed to the notion that fathers and mothers have distinct roles in Asian families (Chao & Tseng, 2002; Kim & Wong, 2002; Uba, 1994). Mothers are often viewed as the person who monitors the emotional well-being of families and maintains close relationships with children, whereas fathers are seened as the main disciplinarian and are discouraged from being overly involved with child rearing (Chao & Tseng, 2002; Kim & Wong, 2002; Uba, 1994).

In the current study, both mothers' and fathers' parenting behaviors showed significant relationships with adolescent depressive symptoms. The significant associations between fathers' parenting behaviors and adolescent depressive symptoms indicate that fathers' parenting is also a significant factor in understanding the emotional well-being of their children. Nevertheless, more significant findings emerged for the relationships between mothers' parenting and adolescent outcomes than for the relationships between fathers' parenting and adolescent outcomes. It appears that mothers' parenting may be a more salient correlate of adolescent depressive symptoms than fathers' parenting. The current findings extend what has been found in the literature. In previous research, Chinese mothers' parenting was predictive of adolescent emotional adjustment, whereas Chinese fathers' parenting was not related to adolescent emotional adjustment (Chen et al., 2000). The current study shows that relationships between Chinese fathers' parenting and adolescent emotional well-being do exist, but these relationships are weaker than those between Chinese mothers' parenting and adolescent emotional outcomes.

The Developmental Significance of Early Adolescence Versus Middle Adolescence

In the current study, more significant relationships between parenting practices and adolescent depressive symptoms emerged during wave 1 (early adolescence) than

during wave 2 (middle adolescence). During the period from early to middle adolescence, children are gaining more autonomy: they are increasingly moving away from parents and moving towards contexts outside the family, such as peers (Feldman & Elliott, 1990; Galambos et al., 2003; Steinberg, 2001). With the increased importance of extra-familial relationships and activities in the lives of adolescents, parenting behaviors may become a less important correlate of child developmental outcomes during middle adolescence than they are at earlier stages of adolescent development.

Nonetheless, both parents' warmth, mothers' punitive parenting, and mothers' non-democratic parenting were still significant correlates of adolescent depressive symptoms at middle adolescence in the current study. These findings underscore the fact that some parenting practices appear to contribute to children's psychological well-being throughout the early-to-middle adolescent period among Chinese American families.

When interpreting the findings regarding the associations between parenting practices and adolescent depressive symptoms, a caveat must be noted. In this study, parenting measures were assessed by parental self-report, while adolescent depressive symptoms were assessed by multi-informant reports: father's report, mother's report, and adolescent's self-report. The zero-correlations between parenting measures and adolescent depressive symptoms showed that parental self-reports of parenting were often related to parental reports of adolescent depressive symptoms, but unrelated to adolescent depressive symptoms as reported by adolescents themselves with one exception (mothers' endorsement of adolescents showing respect for the family was correlated with adolescent self-reported depressive symptoms). Therefore, the statistically significant relationships between parenting and adolescent depressive symptoms in the structural model may reflect the effects of method variance. That is, these significant associations may be more a function of the source of information (Bank et al., 1990).

Acculturation and Parenting Practices

Previous research has examined the associations between parental acculturation and parenting practices. When significant relationships between parental acculturation levels and parenting practices emerge, these relationships are often attributed to cultural influences on parenting. This study extends previous research by examining other possible mechanisms, such as parental psychological maladjustment, whereby parental acculturation impacts parenting practices. The current study is one of the first to demonstrate that parental acculturation has an influence on parenting practices directly through cultural influence, as well as indirectly, through the mechanism of parents' bicultural management difficulty and depressive symptoms.

Cultural Influences

Parental Warmth

For mothers, higher levels of American orientation were significantly associated with more maternal warmth within both waves. Mothers' Chinese orientation was also significantly associated with more maternal warmth at wave 1. Although there was no significant association between mothers' Chinese orientation and maternal warmth at wave 2, the direction of the path coefficient was positive. These results converge to show that mothers' American orientation and Chinese orientation appear to relate to maternal warmth in a similar way.

For fathers, higher levels of American orientation were associated with more fathers' warmth at wave 2, but American orientation was not directly associated with fathers' warmth at wave 1. At wave 1, however, American orientation served as an important moderator of the relationship between fathers' Chinese orientation and their warmth. In particular, for fathers at wave 1, Chinese orientation was positively related to

fathers' warmth only when fathers were highly acculturated toward American culture. In addition, although fathers' American orientation at wave 1 did not relate to their warmth at wave 1 cross-sectionally, the test of the process model linking wave 1 parental acculturation and wave 2 parenting showed that fathers' American orientation at wave 1 was positively associated with fathers' warmth at wave 2. Overall, these findings suggest that fathers' American orientation appears to have a concurrent and long-term positive impact on fathers' level of warmth.

Some previous research on cross-cultural differences in parental warmth between Chinese and American cultures has suggested that Chinese parents are less likely to exhibit affection for children in the direct and expressive way that is typical of American culture. It follows that higher levels of Chinese orientation may be associated with less parental warmth in this study of Chinese American parenting. However, on the whole, for both parents, American and Chinese orientations were both linked to higher levels of parental warmth. When considering this finding, a caveat must be acknowledged. Recall that three items from the original parental warmth scale were dropped in the current study. These three items are "act loving and caring," "let child know you appreciate the child," and "have a good laugh with child about something funny," all of which indicate an open and direct demonstration of parental warmth. In the factor analyses, these items tended to have negative or low loadings on the factor while the other items loaded positively. The factor analysis results suggested that these items may be culturally biased items — i.e., items more suitable for assessing European American parenting than for assessing Chinese parenting. Because these culturally inappropriate items were removed, the finalized warmth scale became more valid for the Chinese culture. Thus, the current study may be less likely to detect possible differences in the ways in which Chinese and

American orientations are associated with variations in parental warmth in these Chinese parents.

Punitive Parenting

For fathers at wave 1 and mothers at wave 2, there was no significant direct linkage between parental acculturation orientations and punitive parenting. For mothers' punitiveness at wave 1, an interaction effect between Chinese and American orientations emerged. For mothers at wave 1, higher levels of Chinese orientation were associated with more maternal punitiveness only when mothers had low levels of American orientation. The finding is consistent with extant literature and the hypothesis that acculturation towards the Chinese culture may be associated with higher levels of punitive control in parents (Chiu, 1987; Lin & Fu, 1990). Although American orientation did not relate to the variation in maternal punitiveness as predicted, it serves as a buffer against the influence of Chinese orientation on elevated punitiveness in mothers.

This interaction effect for mothers' punitiveness, as well as the interaction effect for fathers' warmth discussed above, highlights the diversity of the cultural context in which these parents were parenting their children. It seems that these parents' parenting practices were influenced by the two cultural value systems at the same time, and the intensity and nature of the influences may be decided by their levels of endorsement of both cultures. The results underscore the importance of considering parents' acculturation towards both the host and heritage cultures simultaneously.

Non-democratic Parenting

With respect to non-democratic parenting, recall that only mothers' non-democratic behaviors were associated with adolescent depressive symptoms. Therefore, the process model linking acculturation to non-democratic parenting was tested for mothers but not for fathers.

At both waves, as predicted, higher levels of American orientation were associated with less non-democratic parenting in mothers. However, contrary to hypothesis, Chinese orientation was related to fewer maternal non-democratic behaviors at wave 1. Although the path from Chinese orientation to non-democratic parenting was not significant at wave 2, the direction for the coefficient was also negative. This did not support the hypothesis, which was based on previous research findings suggesting that acculturation towards Chinese culture may result in more controlling and non-democratic parenting (Lin & Fu, 1990). A widely acknowledged notion is that Chinese parents have more authority in families and exert more strict and restrictive control over children than do European American parents (Chao & Tseng, 2002). Thus, the idea is that an endorsement of Chinese culture may result in more non-democratic exchanges between parents and children. The current study failed to support this hypothesis. By showing that Chinese orientation was related to low non-democratic parenting, the findings indicate that the image of Chinese parents as less warm, and more controlling than parents in Western cultures may be an exaggerated one. In fact, a more accurate picture may be that Chinese parents are as democratic as parents in Western cultures.

Family Obligation

With regard to family obligation, for both parents at wave 1, parental endorsement of the respect dimension of family obligation was related to fewer depressive symptoms in adolescents. Thus, a process model testing parental acculturation and parental endorsement of respect was tested for fathers and mothers at wave 1. The results suggested that parents put more emphasis on adolescents showing respect for parents and family if parents had higher levels of acculturation towards Chinese culture. This finding is consistent with the hypothesis and with previous research (Fuligni et al., 1999; Fuligni & Zhang, 2004). Previous studies have demonstrated that individuals from Chinese

cultural contexts endorse family obligation more than do those from European American cultures (Fuligni et al., 1999; Fuligni & Zhang, 2004). As a collectivistic culture, Chinese culture emphasizes the authority of parents (Huang, 1994; Uba, 1994). For Chinese families, one of the socialization goals is to socialize children to respect parents by behaving respectfully, seeking parents' opinions, and following parents' advice on important matters (Huang, 1994; Uba, 1994). This study illustrates that, although the families in the sample are living in a country where the mainstream culture emphasizes individualism, Chinese parents who maintain a high endorsement of their heritage Chinese culture still have a strong sense of family obligation.

Mediation Through Bicultural Management Difficulty and Parental Depressive Symptoms

Overall, the results support the hypothesis that parental acculturation experience may influence parenting practices indirectly through the mechanism of acculturative stress (bicultural management difficulty) and parental psychological maladjustment. At wave 1, for both mothers and fathers, American orientation led to more warmth and less punitiveness by allaying the difficulty balancing between the two cultures and reducing depressive symptoms in parents. In addition, fathers' Chinese orientation led to less warmth and more punitiveness by increasing the difficulty balancing between the two cultures and augmenting depressive symptoms in fathers. Within wave 2, mothers' higher Chinese orientation was related to more bicultural management difficulty and more depressive symptoms, which, in turn, were associated with less warmth and more punitive and non-democratic behaviors in mothers.

On the whole, as hypothesized, higher levels of Chinese orientation were associated with more bicultural management difficulty that related to more depressive symptoms in parents, while higher levels of American orientation were associated with less bicultural management difficulty that related to less depressive symptoms in parents.

In this sample, on average, parents scored higher on Chinese orientation than they did on American orientation. Therefore, increasing levels of American orientation may lend a feeling of ease to the task of balancing two cultures. Increasing levels of Chinese orientation, on the other hand, may bring about a feeling of increasing difficulty in balancing the two cultures.

In the current study, as predicted, more parental depressive symptoms were associated with less parental warmth, more punitive parenting, and more non-democratic parenting. The results were consistent with the previous findings, in which parents' depressive symptoms were related to disrupted parenting practices (Conger et al., 1995; Downey & Coyne, 1990).

A significant longitudinal path allows more confidence in establishing the causal relationships between acculturation and parenting practices. At wave 1, mothers' low American orientation was associated with more bicultural management difficulty, which related to elevated depressive symptoms. Maternal depressed mood at wave 1 was associated with more maternal punitiveness at wave 2. Considering that there was a four-year interval between the two occasions when data were collected, parental psychological maladjustments resulting from acculturation experience appear to be a significant influence on maternal punitiveness.

One finding that should be noted is as follows: although the relationships between parental acculturation and parenting measures such as warmth, punitive parenting, and non-democratic parenting were mediated by parents' bicultural management difficulty and depressive symptoms, this mediation effect did not exist for the relationship between parental acculturation and parental endorsement of adolescents showing respect for the family (i.e., the level of parental depressive symptoms was not related to parental endorsement of adolescents' respect for the family). One explanation may be that

parental warmth, punitive parenting, and non-democratic parenting have strong social and emotional meanings. Therefore, these aspects of parenting may be more likely to be influenced by indicators of parental emotional well-being such as depressed mood. On the other hand, parental endorsement of family obligation is a measure that assesses cognitive values, which may be less likely to be influenced by parents' emotional state. Thus, significant mediation was not demonstrated for parental respect.

It is worth noting that both direct and indirect relationships between parental acculturation and parenting practices may differ for mothers and fathers. For example, at wave 1, for mothers, both Chinese and American orientations had significant direct associations with parenting practices. But for fathers, American orientation had no significant direct associations with parenting practices. Understanding why parental gender differences in associations between acculturation and parenting exist seems to be an interesting area for future research.

Implications of Measurement Work

Prior to testing the interrelationships among the core measures in this study, exploratory and confirmatory factor analyses were conducted to evaluate the adequacy of the measures and to refine them if necessary. On the basis of inter-item correlations and factor analyses, many scales used in the study were refined for this study.

Evaluating the adequacy of measures is very important for research on minority families, as most of the widely-used measures of parenting and developmental outcomes were originally developed for use with European American samples. For example, three items from the original parental warmth scale (Ge, Conger et al., 1996) were dropped in the current study. The deleted items were all assessing open and direct expressions of parental affection on children. Prior research has suggested that Chinese and other Asian parents are less likely to exhibit love for their children in the direct and expressive way

that is typical of American culture (Chao & Tseng, 2002; Uba, 1994; Wu & Chao, 2005). Thus, items that focus on demonstrativeness may be less appropriate for assessing parental warmth in Chinese parents. Another example of a case in which items in a factor needed adjustment is parents' reports of their own and children's depressive symptoms. In the case of these reports, three out of four items on the positive affect subscale were dropped, because they showed negative or very weak (almost zero) correlations with other items assessing depressive symptoms. These findings are consistent with previous research, which states that compared to European Americans, Asians are more reluctant to endorse items that tap subjective experiences of positive affect (Iwata & Buka, 2002; Noh et al., 1998). One possible explanation for this response bias may be that expressions of self-worth and positive affect are often discouraged in Asian culture. Thus, Asians' responses to the positive affect items on the depressive symptoms instrument might not be indicative of depressive symptomatology. These revisions to the original measures reflect differences between Chinese and American cultures in the conceptualization and expression of depressive symptoms and parenting behaviors. The fact that such revisions were necessary underscores the importance of ensuring measurement adequacy before using them as components of structural models in minority populations (Crockett et al., 2005).

In Summary, for the core measures examined in the present study, some items from the originally proposed scales were found to be not appropriate for the current sample, and were thus discarded. On the whole, however, most of the items making up the scales appeared to be adequate for the assessment of their corresponding construct in the current sample. It can be concluded, then, that the measures of the core constructs in this study are generally appropriate assessments.

Limitations and Future Directions

Several caveats regarding this study must be acknowledged.

First, one limitation pertains to measurement across different language versions. In this study, survey questions were administered in either English or Chinese. Great care was taken to ensure that the two language versions were comparable. Nevertheless, factor analyses were not conducted based on each language version of the survey due to sample size problems. Among the participating parents, less than 30% completed the English version surveys at both waves of data collection (N = 85-117). Of the participating adolescents at wave 1, only 14% (N = 64) used Chinese version. Of the participating adolescents at wave 2, only 4% (N = 18) used Chinese version. As only a small number of parents used English version, and only a small number of adolescents used Chinese version, it is not feasible to conduct factor analyses for different language versions. However, it is possible that participants' response would have differed depending on whether the instruments were administered in English or Chinese. For example, there are some evidence that language may have impact on perceptions and reports of cultural orientation. When Chinese–English bilinguals completed cultural identity instruments in English, they reported identifying more with their Chinese heritage than when they completed the instruments in Chinese (Yang & Bond, 1980). This effect may be explained by the salience of one's ethnic identity during the testing situation when instrument in English is used. Without measurement work on different language versions, the current study cannot assess the reliability and validity of the surveys in various languages. Future research should recruit larger sample so that it is possible to conduct factor analyses on the study measures for different language versions.

Second, another limitation of this study concerns the measure of acculturation orientation. Research has demonstrated the domain-specific nature of acculturation

(Arends-Tóth & Van de Vijver, 2006). Individuals' acculturation can be uneven across different aspects of life such as cultural values, interpersonal relationships, marriage, etc (Arends-Tóth & Van de Vijver, 2006). In the current study, parental acculturation was represented by a composite variable of orientation in multiple domains of acculturation such as interpersonal relationships, cultural values, and cultural behaviors. It is plausible to use an overall score that shows one's tendency to identify with a given culture because there is some consistency despite some divergent acculturation across domains (Berry, 2006). However, examining the relationships between an overall acculturation tendency and parenting practices may gloss over important relationships between acculturation and parenting practices. For example, a parent may exhibit much higher levels of acculturation towards the Chinese culture in the domain of child-rearing than in any of the other domains. Supposing that the parent's parenting behavior is more typical of Chinese culture, results from examining the relationship between an overall acculturation tendency and parenting practices might not accurately reflect the relationship between endorsement of Chinese cultural values of child-rearing and parental practices. In such a case, it would be ideal to obtain data on parental acculturation in terms of child-rearing values, which would be more nuanced and more relevant to the research questions.

When examining how parenting practices may change during the acculturation process, qualitative research can be conducted in conjunction with the quantitative research. For example, in-depth interviews with parents about their understanding of and attitudes towards Chinese parenting and American parenting can deepen an understanding of cultural differences in parenting and how acculturation triggers changes in parenting practices.

Third, one limitation pertains to parental gender differences. In this study, findings suggest that there were potential parental gender differences in the relationships

between parental acculturation and parenting practices. For example, at wave 1, the direct associations between American orientation and parenting practices were statistically significant for mothers but not for fathers. This study did not examine the underlying reasons for these potential differences between mothers and fathers. It is important for future research to examine why the associations between parental acculturation and parenting practices are different for mothers and fathers.

Fourth, when examining parenting practices and adolescent socio-emotional outcomes, only one kind of outcome (adolescent depressive symptoms) was included in the analyses. Then for the analyses on how parental acculturation was associated with parenting practices, only parenting practices that showed significant relationships to adolescent depressive symptoms were included. However, among the participating Chinese American families, these particular parenting practices (warmth, punitive parenting, non-democratic parenting, and family obligation) may also be related to other essential aspects of adolescent socio-emotional development that were unavailable in the data. Such outcomes may include anxiety and social competence, to name just a few. By including these important indexes of adolescent socio-emotional outcomes, future research can provide a better understanding of the implications of these parenting practices for children.

Finally, this study represents a preliminary and exploratory step toward understanding parenting practices and the resulting implications for adolescent development during the process of acculturation. A number of models were tested to examine a small piece of the family dynamic during acculturation process. Future research needs to build and evaluate a comprehensive and integrated model of parental acculturation, parenting, and adolescent development. For example, the proposed model 1

(Figure 1) and the proposed model 2 (Figure 2) can be combined into one model with adolescent depressive symptoms serving as the final endogenous variable in the model.

Conclusion

Chinese American parents are parenting their children within the context of two cultures: the mainstream American culture and their ethnic Chinese culture. Currently we do not fully understand all the complexities of the ways in which acculturation affects parenting practices. The evidence provided in this study, however, suggests that cultural influences, parental bicultural management difficulty and parental depressive symptoms are important mechanisms whereby acculturation experiences shape parenting practices, thus influencing children's development. The findings from this study suggest that: acculturation towards a given culture may be associated with greater likelihood of adopting parenting practices that are normative in that culture; and that acculturation may be associated with ineffective parenting practices through parental bicultural management difficulty and parental depressive symptoms resulting from the acculturation process. On the whole, it can be concluded that this study contributes to the research on immigrant families by illustrating multiple ways in which parental acculturation affects family dynamics.

The results from the current study also have some practical implications for parenting interventions for immigrant families in the U. S. Currently, interventions has been undertaken to help immigrant Chinese American families adapt to the U. S. culture (Ying, 1999). For example, a parenting curriculum has been developed to addresses parenting issues that are salient to immigrant parents. Among these issues is the challenge of understanding children who are growing up in American culture (Ying, 1999).

The current study suggests that another promising area for intervention is parental psychological maladjustment stemming from acculturation experience. Research has

demonstrated that Asian Americans experience an elevated level of depressive symptoms (Aldwin & Greenberger, 1987; Kuo, 1984), indicating that Asian American parents are at heightened risk for disrupted parenting due to psychological maladjustments. According to the current findings, one source of stress and depression in Asian American parents may be difficulty balancing the host and heritage cultures. Since acculturation towards American culture has a direct allying effect on bicultural management difficulty, it could be helpful to design an intervention promoting parents' understanding and appreciation of American culture. Intervention programs can also design bicultural skill exercises to train parents to maintain a balance between American and Chinese cultures. In doing so, both parental mental health and parenting behaviors can be improved, leading to better adjustments in children as well as parents.

Table 1. Test of Measurement Model of Chinese Orientation [a]

Scales	Evaluation of Items: Item(s) dropped on the basis of inter-item correlations [b]	Evaluation of Items: Item(s) dropped on the basis of Factor Analyses [c]	Finalized CFA Model: Finalized items	Finalized CFA Model: Error correlations	Model Fit Summary: χ^2(df)	CFI	TLI	RMSEA	SRMR	α of Finalized Scale
Mother w1	--	Items 5, 7, & 19	Items 1, 3, 9, 11, 13, 15, 17	Items 9 & 17; Items 13 & 15;	31.03**(12)	.96	.93	.06	.04	.80
Mother w2	--	Items 5, 7, & 19	Items 1, 3, 9, 11, 13, 15, 17	--	41.90***(14)	.95	.92	.08	.04	.86
Father w1	Items 5 & 7	Item 19	Items 1, 3, 9, 11, 13, 15, 17	Items 9 & 17; Items 13 & 15;	22.39* (12)	.98	.96	.05	.03	.80
Father w2	Items 5 & 7	Item 19	Items 1, 3, 9, 11, 13, 15, 17	--	37.84***(14)	.96	.94	.08	.04	.86

Note. * $p < .05$, ** $p < .01$, *** $p < .001$.

[a] Original items for Chinese orientation:
1. I often follow Chinese cultural traditions
3. I am willing to marry a Chinese person
5. I enjoy social activities with Chinese people
7. I am comfortable working with Chinese people
9. I enjoy Chinese entertainment (e.g., movies, music)
11. I often behave in ways that are typical of the Chinese culture
13. It is important for me to maintain or develop Chinese cultural practices
15. I believe in Chinese cultural values
17. I enjoy typical Chinese jokes and humor
19. I am interested in having Chinese friends

[b] An item is dropped if half of its correlations with other items on the same subscale are below .20 (Floyd & Widaman, 1995). Items 5 & 7 are dropped as they have 4 correlations below .20 out of 9 possible correlations for fathers at w1.

[c] Items 5, 7, & 19 are deleted on the basis of exploratory factor analyses. These items have low or negative loadings on the factor while most of the other items load highly.

Table 2. Test of Measurement Model of American Orientation [a]

Scales	Evaluation of Items		Finalized CFA Model		Model Fit Summary					α of Finalized Scale
	Item(s) dropped on the basis of inter-item correlations [b]	Item(s) dropped on the basis of Factor Analyses [c]	Finalized items	Error correlations	χ^2(df)	CFI	TLI	RMSEA	SRMR	
Mother w1	--	Item 16	Items 2, 4, 6, 8, 10, 12, 14, 18, & 20	--	69.71***(27)	.94	.92	.06	.04	.82
Mother w2	--	Item 16	Items 2, 4, 6, 8, 10, 12, 14, 18, & 20	Items 4&6; Items 6&8; Items 8&20;Items6&20	50.21***(23)	.96	.93	.06	.04	.84
Father w1	--	Item 16	Items 2, 4, 6, 8, 10, 12, 14, 18, & 20		74.89***(27)	.92	.90	.07	.04	.82
Father w2	--	Item 16	Items 2, 4, 6, 8, 10, 12, 14, 18, & 20	Items 6 & 20	48.72**(26)	.96	.94	.06	.04	.86

Note. * $p < .05$, ** $p < .01$, *** $p < .001$.

[a] Original items for American orientation: 2. I often follow mainstream American cultural traditions (e.g., celebrate holidays)
4. I am willing to marry an American person
6. I enjoy social activities with Americans
8. I am comfortable working with Americans
10. I enjoy American entertainment (e.g., movies, music)
12. I often behave in ways that are typical of the American culture
14. It is important for me to maintain or develop mainstream American cultural practices
16. I believe in mainstream American values
18. I enjoy typical American jokes and humor
20. I am interested in having American friends

[b] An item is dropped if half of its correlations with other items on the same subscale are below .20 (Floyd & Widaman, 1995).

[c] Item 16 is deleted on the basis of exploratory factor analysis: negative error variance for fathers at wave 1 and low factor loading for mothers at wave 1.

Table 3. Test of Measurement Model of Parental Warmth [a]

Scales	Evaluation of Items		Finalized CFA Model		Model Fit Summary					α of Finalized Scale
	Item(s) dropped on the basis of inter-item correlations [b]	Item(s) dropped on the basis of Factor Analyses [c]	Finalized items	Error correlations	χ^2(df) [d]	CFI	TLI	RMSEA	WRMR	
Mother w1	--	Items 1, 2, & 11	Items 3, 5, 7, 10, & 13	Items 3 & 7	12.76*(4)	.99	.99	.07	.34	.82
Mother w2	--	Items 1, 2, & 11	Items 3, 5, 7, 10, & 13	--	9.95*(4)	.99	1.00	.07	.33	.86
Father w1	--	Items 1, 2, & 11	Items 3, 5, 7, 10, & 13	--	4.32(5)	1.00	1.00	.00	.20	.84
Father w2	--	Items 1, 2, & 11	Items 3, 5, 7, 10, & 13	Items 10 & 5, Items 10 & 7, Items 10 & 13	.11(2)	1.00	1.00	.00	.03	.88

Note. * $p < .05$, ** $p < .01$, *** $p < .001$.

[a] Original items for parental warmth:
1. Act loving, affectionate, and caring toward him/her
2. Let him/her now that you appreciate him, his ideas, or the things he does
3. Help him/her do something that was important to him/her
5. Listen carefully to his/her point-of-view (what s/he thinks)
7. Let him/her know you really care about him/her
10. Ask for his/her opinion about an important matter
11. Have a good laugh with him/her about something that was funny
13. Act supportive and understanding towards him/her

[b] An item is dropped if half of its correlations with other items on the same subscale are below .20 (Floyd & Widaman, 1995).

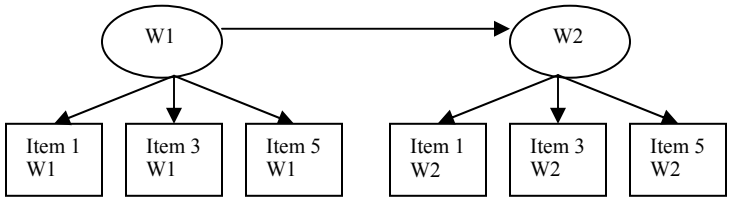
[c] Items 1 and 2 are deleted on the basis of exploratory factor analyses. They have low or negative loadings on the factor on which the other items load. Item 11 is deleted on the basis of confirmatory factor analysis. Error correlations between item 11 and other items are required in order to achieve good model fit. But there is no rationale for allowing these error correlations.

[d] The estimator WLSMV is used in testing CFA models of parental warmth as parental warmth items are treated as ordinal in factor analyses. The degrees of freedom for WLSMV is estimated according to a formula given in the Mplus Technical Appendices at www.statmodel.com.

Table 4. Test of Measurement Model of Punitive Parenting [a]

Scales	Evaluation of Items: Item(s) dropped on the basis of inter-item correlations [b]	Evaluation of Items: Item(s) dropped on the basis of Factor Analyses [c]	Finalized CFA Model: Finalized items	Finalized CFA Model: Error correlations	Model Fit Summary: χ^2(df) [d]	CFI	TLI	RMSEA	WRMR	α of Finalized Scale
Mother w1[e]	--	Item 7	Items 1, 3, & 5	--	9.95(6)	.99	.99	.04	.47	.66
Mother w2[e]	--	Item 7	Items 1, 3, & 5	--	9.95(6)	.99	.99	.04	.47	.70
Father w1	--	--	Items 1, 3, 5, 7	--	.65(2)	1.00	1.01	.00	.13	.69
Father w2	--	--	Items 1, 3, 5, 7	--	.15(2)	1.00	1.01	.00	.06	.71

Figure: testing measurement model of mother punitiveness



Note. * $p < .05$, ** $p < .01$, *** $p < .001$.

[a] Original items for punitive parenting: 1. I punish by taking privileges (things the child likes to do) away from my child with little or no explanation
3. I discipline my child first and ask questions later
5. I use threats as punishment with little or no explanation
7. When my child asks why s/he has to follow my rules, I state: because I said so, or because I am your parent and I want you to

[b] An item is dropped if half of its correlations with other items on the same subscale are below .20 (Floyd & Widaman, 1995).

[c] Item 7 is deleted on the basis of confirmatory factor analyses. Item 7 has weaker loading on the factor compared with the other three items.

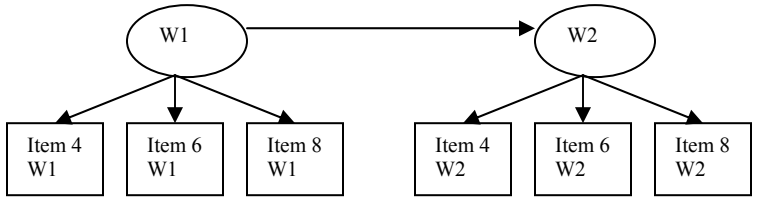
[d] The estimator WLSMV is used in testing CFA models of parental punitiveness as punitive items are treated as ordinal in the factor analyses. The degrees of freedom for WLSMV is estimated according to a formula given in the Mplus Technical Appendices at www.statmodel.com.

[e] For mother punitiveness at waves 1 and 2, there are only three items on the scale. As a three-factor model is saturated and can not be tested statistically, the measurement models of mother punitiveness at wave 1 and mother punitiveness at wave 2 are tested in a structural model where mother punitveness at wave 1 predicts mother punitiveness at wave 2.

Table 5. Test of Measurement Model of Non-democratic Parenting [a]

Scales	Evaluation of Items: Item(s) dropped on the basis of inter-item correlations [b]	Evaluation of Items: Item(s) dropped on the basis of Factor Analyses [c]	Finalized CFA Model: Finalized items	Finalized CFA Model: Error correlations	Model Fit Summary: χ^2(df) [d]	CFI	TLI	RMSEA	WRMR	α of Finalized Scale
Mother w1[e]	Item 2	--	Items 4, 6, & 8	--	23.78***(6)	.98	.97	.08	.72	.62
Mother w2[e]	Item 2	--	Items 4, 6, & 8	--	23.78***(6)	.98	.97	.08	.72	.79
Father w1[e]	--	Item 2	Items 4, 6, & 8	--	12.57(6)	.99	.99	.05	.48	.73
Father w2[e]	--	Item 2	Items 4, 6, & 8	--	12.57(6)	.99	.99	.05	.48	.75

Figure: testing measurement model of Non-democratic parenting



Note. * $p < .05$, ** $p < .01$, *** $p < .001$.

[a] Original items for non-democratic parenting: 2. I take my child's desire into account before asking him/her to do something
4. I encourage my child to freely express himself/herself even she s/he disagrees with me
6. I take into account my child's preferences in making plans for the family
8. I allow my child to give input into family rules

[b] An item is dropped if half of its correlations with other items on the same subscale are below .20 (Floyd & Widaman, 1995).

[c] Item 2 is deleted on the basis of confirmatory factor analysis. Item 2 has much weaker loading on the factor compared to other items.

[d] The estimator WLSMV is used in testing CFA models of non-democratic parenting as non-democratic parenting items are treated as ordinal in the factor analyses. The degrees of freedom for WLSMV is estimated according to a formula given in the Mplus Technical Appendices at www.statmodel.com.

[e] For non-democratic parenting at waves 1 and 2, there are only three items on the scale. As a three-factor model is saturated and can not be tested statistically, the measurement models of non-democratic parenting at wave 1 and non-democratic parenting at wave 2 are tested in a structural model where non-democratic parenting at wave 1 predicts non-democratic parenting at wave 2.

Table 6. Test of Measurement Model of Family Obligation [a]

Scales	Evaluation of Items: Item(s) dropped on the basis of inter-item correlations [b]	Evaluation of Items: Item(s) dropped on the basis of Factor Analyses [c]	Finalized CFA Model: Finalized items	Finalized CFA Model: Error correlations	Model Fit Summary: χ^2(df) [d]	CFI	TLI	RMSEA	SRMR	WRMR	α of Finalized Scale
Respect Mother w1	--	--	Items 1, 2, 3, 4, 5	Items 1 & 2; Items 3 & 5	3.77(3)	1.00	1.00	.03	--	.24	.71
Respect Mother w2	--	--	Items 1, 2, 3, 4, 5	Items 1 & 2	13.10*(4)	.97	.93	.09	.03	--	.74
Respect Father w1	--	--	Items 1, 2, 3, 4, 5	Items 1 & 2	16.90**(4)	.98	.98	.09	--	.57	.71
Respect Father w2	--	--	Items 1, 2, 3, 4, 5	Items 3 & 5	11.87*(4)	.97	.93	.08	.03	--	.76
Support Mother w1	--	Items 9, 11, 12	Items 6, 7, 8, 10	Items 7 & 10	2.42(1)	1.00	.99	.06	--	.24	.72
Support Mother w2	--	Items 9, 11, 12	Items 6, 7, 8, 10	--	.11(2)	1.00	1.02	.00	.00	--	.78
Support Father w1	--	Items 9, 11, 12	Items 6, 7, 8, 10	--	.44(2)	1.00	1.00	.00	--	.09	.73
Support Father w2	--	Items 9, 11, 12	Items 6, 7, 8, 10	--	.99(2)	1.00	1.01	.00	.01	--	.74

Note. * $p < .05$, ** $p < .01$, *** $p < .001$.

[a] Original items for family obligation:
1. Treats you with respect
2. Follows your advice about choosing friends
3. Does well for the sake of the family
4. Follows your advice about his/her future
5. Makes sacrifices (give up what s/he wants to do) for the family
6. Spends time at home with the family
7. Runs errands that the family needs done
8. Helps out around the house
9. Eats meals with the family
10. Helps you financially in the future when s/he gets older
11. Lives at home with you until he/she is married
12. Lives with you when you get older

[b] An item is dropped if half of its correlations with other items on the same subscale are below .20 (Floyd & Widaman, 1995).

[c] Items 9, 11, 12 are deleted on the basis of exploratory factor analyses. Items 9, 11, 12 do not load or load weakly on the factor where the other items load.

[d] The estimator WLSMV is used in testing CFA models of respect and support at wave 1 as respect and support items are treated as ordinal in the factor analyses. The degrees of freedom for WLSMV is estimated according to a formula given in the Mplus Technical Appendices at www.statmodel.com.

Table 7. Test of Measurement Model of Parental Depressive Symptoms [a]

	Evaluation of Items		Finalized CFA Model		Model Fit Summary					
Scales	Item(s) dropped on the basis of inter-item correlations [b]	Item(s) dropped on the basis of Factor Analyses	Finalized items	Error correlations	χ^2(df) [c]	CFI	TLI	RMSEA	WRMR	α of Finalized Scale
Mother w1	Items 4, 8, & 16				165.62***(56)	.94	.98	.07	1.00	
Depressive		--	Items 3, 6, 9, 10, 14, 17, 18, 12	--						.84
Somatic		--	Items 1, 2, 5, 7, 11, 13, 20	--						.78
Interpersonal		--	Items 15 & 19	--						.78
Mother w2	Items 4, 8, & 16				133.88***(54)	.96	.98	.07	.95	
Depressive		--	Items 3, 6, 9, 10, 14, 17, 18, 12	--						.82
Somatic		--	Items 1, 2, 5, 7, 11, 13, 20	--						.77
Interpersonal		--	Items 15 & 19	--						.71
Father w1	Items 4, 8, & 16				155.67***(57)	.96	.98	.07	.95	
Depressive		--	Items 3, 6, 9, 10, 14, 17, 18, 12	--						.84
Somatic		--	Items 1, 2, 5, 7, 11, 13, 20	--						.80
Interpersonal		--	Items 15 & 19	--						.66
Father w2	Items 4, 8, & 16				171.82***(64)	.95	.98	.06	.95	
Depressive		--	Items 3, 6, 9, 10, 14, 17, 18, 12	--						.83
Somatic		--	Items 1, 2, 5, 7, 11, 13, 20	--						.84
Interpersonal		--	Items 15 & 19	--						.75

Note. * $p < .05$, ** $p < .01$, *** $p < .001$.

[a] Original items for parental depressive symptoms: 1. I was bothered by things usually not bothered me
2. I did not feel like eating; my appetite was poor
3. I felt that I could not shake off the blues (feeling down or bad) even with help from family or friends

Table 7 (*continued*)

4. I felt that I was just as good as other people
5. I had trouble keeping the mind focused on what one was doing
6. I felt depressed
7. I felt everything was an effort (hard to do)
8. I felt hopeful about the future
9. I thought life had been a failure
10. I felt fearful
11. My sleep was restless (could not sleep well)
12. I was happy
13. I talked less than usual
14. I felt lonely
15. I felt people were unfriendly
16. I enjoyed life
17. I had crying spells; cried
18. I felt sad
19. I felt disliked by people
20. I could not get "going" (get oneself to do things)

[b] The items 4, 8, & 16 are deleted because they have negative or very weak (around zero) correlations with items on the other subscales of depressive symptoms.

[c] The estimator WLSMV is used in testing CFA models of parental depressive symptoms as depressive symptoms items are treated as ordinal in the factor analyses. The degrees of freedom for WLSMV is estimated according to a formula given in the Mplus Technical Appendices at www.statmodel.com.

Table 8. Test of Measurement Model of Adolescent Depressive Symptoms [a]

	Evaluation of Items		Finalized CFA Model		Model Fit Summary					
Scales	Item(s) dropped on the basis of inter-item correlations [b]	Item(s) dropped on the basis of Factor Analyses	Finalized items	Error correlations	χ^2(df)	CFI	TLI	RMSEA	WRMR	α of Finalized Scale
Adolescent Report w1					199.61***(82)	.93	.97	.06	.97	
Depressive		--	Items 3, 6, 9, 10, 14, 17, 18	--						.82
Somatic		--	Items 1, 2, 5, 7, 11, 13, 20	--						.71
Interpersonal		--	Items 15 & 19	--						.69
Positive		--	Items 4, 8, 12, & 16	--						.71
Mother Report w1	Items 4, 8, & 16				159.51***(59)	.94	.98	.07	.98	
Depressive		--	Items 3, 6, 9, 10, 14, 17, 18, 12	--						.76
Somatic		--	Items 1, 2, 5, 7, 11, 13, 20	Items 5 & 7						.75
Interpersonal		--	Items 15 & 19	--						.69
Father Report w1	Items 4, 8, & 16				147.72***(55)	.96	.99	.07	.93	
Depressive		--	Items 3, 6, 9, 10, 14, 17, 18, 12	--						.80
Somatic		--	Items 1, 2, 5, 7, 11, 13, 20	--						.79
Interpersonal		--	Items 15 & 19	--						.69
Adolescent Report w2										
Depressive		--	Items 3, 6, 9, 10, 14, 17, 18		203.97***(73)	.94	.97	.07	1.00	.86
Somatic		--	Items 1, 2, 5, 7, 11, 13, 20							.69
Interpersonal		--								.67
Positive		--	Items 4, 8, 12, & 16							.77

Table 8 (*continued*)

Scales	Evaluation of Items: Item(s) dropped on the basis of inter-item correlations [b]	Evaluation of Items: Item(s) dropped on the basis of Factor Analyses	Finalized CFA Model: Finalized items	Finalized CFA Model: Error correlations	Model Fit Summary: χ^2(df) [c]	CFI	TLI	RMSEA	WRMR	α of Finalized Scale
Mother Report w2	Items 4, 8, & 16				106.10***(53)	.96	.98	.06	.86	
Depressive		--	Items 3, 6, 9, 10, 14, 17, 18, 12							.78
Somatic		--	Items 1, 2, 5, 7, 11, 13, 20							.77
Interpersonal		--								.76
Father Report w2	Items 4, 8, & 16				120.20***(46)	.94	.98	.08	.93	
Depressive		--	Items 3, 6, 9, 10, 14, 17, 18, 12							.78
Somatic		--	tems 1, 2, 5, 7, 11, 13, 20							.80
Interpersonal		--								.80

Note. * $p < .05$, ** $p < .01$, *** $p < .001$.

[a] Original items for adolescent depressive symptoms:
1. I was bothered by things usually not bothered me
2. I did not feel like eating; my appetite was poor
3. I felt that I could not shake off the blues (feeling down or bad) even with help from family or friends
4. I felt that I was just as good as other people
5. I had trouble keeping the mind focused on what one was doing
6. I felt depressed
7. I felt everything was an effort (hard to do)
8. I felt hopeful about the future
9. I thought life had been a failure
10. I felt fearful
11. My sleep was restless (could not sleep well)
12. I was happy
13. I talked less than usual
14. I felt lonely
15. I felt people were unfriendly
16. I enjoyed life
17. I had crying spells; cried
18. I felt sad
19. I felt disliked by people
20. I could not get "going" (get oneself to do things)

[b] The items 4, 8, & 16 are deleted because they have negative or very weak (around zero) correlations with items on the other subscales of depressive symptoms.

[c] The estimator WLSMV is used in testing CFA models of adolescent depressive symptoms as depressive symptoms are treated as ordinal in the factor analyses. The degrees of freedom for WLSMV is estimated according to a formula given in the Mplus Technical Appendices at www.statmodel.com.

Table 9. Means and Standard Deviations for Study Variables at Wave 1

	Mother Report N = 407		Father Report N = 381		Adolescent Report N = 443	
Variables	M	SD	M	SD	M	SD
Parental Acculturation						
Chinese orientation	3.88	.52	3.85	.50	--	--
American orientation	3.45	.48	3.48	.45	--	--
Parental Bicultural Difficulty	2.62	.87	2.62	.85	--	--
Parental Depressive Symptoms						
Depressive affect	.48	.45	.41	.42	--	--
Somatic complaints	.57	.43	.53	.43	--	--
Interpersonal relationships	.32	.50	.30	.48	--	--
Parental Warmth	5.74	.94	5.58	.98	--	--
Punitive Parenting	1.81	.74	1.95	.75	--	--
Non-democratic Parenting	2.12	.73	2.25	.80	--	--
Family Obligation						
Respect	3.91	.63	3.74	.65	--	--
Support	3.22	.82	2.97	.81	--	--
Adolescent Depressive Symptoms						
Depressive affect	.30	.34	.31	.37	.42	.49
Somatic complaints	.42	.38	.42	.41	.62	.45
Interpersonal relationships	.27	.48	.25	.44	.56	.66
Positive affect	--	--		--	1.08	.69
Covariates						
Child gender [a]	--	--	--	--	.54	.50
Family income [b]	3.82	2.48	3.82	2.48	--	--
Parental education	5.86	1.72	5.93	1.82	--	--

Note. [a] Child gender: 0 = boys, 1 = girls.
[b] The study variable of family income is obtained by averaging mother report of family income and father report of family income. The descriptives of this mean variable are reported in the table.

Table 10. Means and Standard Deviations for Study Variables at Wave 2

	Mother Report N = 309		Father Report N = 280		Adolescent Report N = 348	
	M	SD	M	SD	M	SD
Parental Acculturation						
Chinese orientation	3.88	.55	3.87	.54	--	--
American orientation	3.37	.49	3.38	.51	--	--
Parental Bicultural Difficulty	2.63	.80	2.76	.82	--	--
Parental Depressive Symptoms						
Depressive affect	.48	.44	.45	.44	--	--
Somatic complaints	.56	.43	.55	.48	--	--
Interpersonal relationships	.33	.51	.38	.56	--	--
Parental Warmth	5.65	1.05	5.37	1.17	--	--
Punitive Parenting	1.57	.65	1.77	.68	--	--
Non-democratic Parenting	2.37	.93	2.41	.86	--	--
Family Obligation						
Respect	3.58	.65	3.45	.67	--	--
Support	2.99	.85	2.92	.85	--	--
Adolescent Depressive Symptoms						
Depressive affect	.35	.36	.35	.37	.51	.55
Somatic complaints	.46	.41	.46	.42	.77	.51
Interpersonal relationships	.22	.44	.28	.49	.49	.59
Positive affect	--	--	--	--	1.07	.68
Covariates						
Child gender [a]	--	--	--	--	.59	.49
Family income [b]	4.34	2.60	4.34	2.60	--	--
Parental education	5.77	1.84	6.02	1.82	--	--

Note. [a] Child gender: 0 = boys, 1 = girls.
[b] The study variable of family income is obtained by averaging mother report of family income and father report of family income. The descriptives of this mean variable are reported in the table.

Table 11. Skewness and Kurtosis for Study Variables at Wave 1

	Mother Report N = 407		Father Report N = 381		Adolescent Report N = 443	
	Skewness	Kurtosis	Skewness	Kurtosis	Skewness	Kurtosis
Parental Acculturation						
Chinese orientation	-.15	.35	-.37	.65	--	--
American orientation	.07	.75	.19	.04	--	--
Parental Bicultural Difficulty	.02	-.21	-.00	.03	--	--
Parental Depressive Symptoms						
Depressive affect	1.14	1.51	1.39	2.13	--	--
Somatic complaints	.72	.42	.79	.33	--	--
Interpersonal relationships	2.05	5.85	1.58	2.59	--	--
Parental Warmth	-.66	.23	-.43	-.48	--	--
Punitive Parenting	.81	.30	.69	.32	--	--
Non-democratic Parenting	.45	.34	.70	1.09	--	--
Family Obligation						
Respect	-.30	-.54	-.11	-.46	--	--
Support	.09	-.26	.04	-.09	--	--
Adolescent Depressive Symptoms						
Depressive affect	1.69	4.12	1.57	2.42	1.57	2.58
Somatic complaints	.89	.27	1.15	1.06	1.04	1.43
Interpersonal relationships	1.92	4.02	1.72	2.37	1.37	1.74
Positive affect	--	--	--	--	.39	-.35
Covariates						
Child gender [a]	--	--	--	--	-.16	-1.99
Family income [b]	1.31	1.43	1.31	1.43	--	--
Parental education	-.38	-.13	-.24	-.57	--	--

Note. [a] Child gender: 0 = boys, 1 = girls.
[b] The study variable of family income is obtained by averaging mother report of family income and father report of family income. The descriptives of this mean variable are reported in the table.

Table 12. Skewness and Kurtosis for Study Variables at Wave 2

	Mother Report N = 309		Father Report N = 280		Adolescent Report N = 348	
	Skewness	Kurtosis	Skewness	Kurtosis	Skewness	Kurtosis
Parental Acculturation						
Chinese orientation	-.50	2.38	-.62	2.39	--	--
American orientation	.01	2.13	-.65	1.74	--	--
Parental Bicultural Difficulty	.04	.08	.12	.25	--	--
Parental Depressive Symptoms						
Depressive affect	1.02	.32	1.47	2.54	--	--
Somatic complaints	.64	-.08	1.19	2.37	--	--
Interpersonal relationships	1.79	3.93	1.80	3.61	--	--
Parental Warmth	-.83	.53	-.70	.22	--	--
Punitive Parenting	.99	.08	.75	-.16	--	--
Non-democratic Parenting	.58	.26	.54	.60	--	--
Family Obligation						
Respect	-.02	-.11	.26	.26	--	--
Support	.11	-.06	.17	.11	--	--
Adolescent Depressive Symptoms						
Depressive affect	1.59	3.25	1.75	4.62	1.36	1.39
Somatic complaints	.89	.35	.97	.79	.73	.56
Interpersonal relationships	2.50	8.30	2.13	5.15	1.13	.76
Positive affect	--	--	--	--	.47	-.22
Covariates						
Child gender [a]	--	--	--	--	-.36	-1.89
Family income [b]	1.02	.56	1.02	.56	--	--
Parental education	-.53	-.13	-.15	-.66	--	--

Note. [a] Child gender: 0 = boys, 1 = girls.
[b] The study variable of family income is obtained by averaging mother report of family income and father report of family income. The descriptives of this mean variable are reported in the table.

Table 13. Correlation Between Parenting Variables, Adolescent Depressive Symptoms, and Covariates at Wave 1[a]

	1	2	3	4	5	6	7	8	9	10	11	12
Parenting w1												
1. Warmth w1	**1.00**	-.31**	-.46**	.25**	.05	-.17**	-.19**	.06	.13*	.03	.09	.05
2. Punitiveness w1	-.25**	**1.00**	.18**	-.04	.16**	.17**	.19**	.05	-.11*	.07	.02	.01
3. Non-democratic w1	-.36**	.22**	**1.00**	-.19**	.05	.08	.11*	-.07	-.12*	.03	-.04	-.06
4. Respect w1	.16**	.01	-.04	**1.00**	.49**	-.06	-.19**	-.04	.03	.14**	.10	.06
5. Support w1	.11*	.02	.06	.52**	**1.00**	.04	.00	-.05	.01	.12*	.18**	.12*
Teen Depressive Symptoms w1												
6. Mother report w1	-.24**	.20**	.14**	-.14**	.00	**1.00**	.40**	.26**	.04	-.10*	-.13*	-.16**
7. Father report w1	-.12*	.07	.13*	-.14**	-.07	.40**	**1.00**	.26**	.06	-.12*	-.16**	-.12*
8. Teen report w1	-.07	.09	.05	-.13**	-.02	.26**	26**	**1.00**	.06	-.06	-.06	-.15**
Covariates												
9. Child gender	.09	-.16**	-.10*	-.04	-.06	.04	.06	.06	**1.00**	-.05	-.02	.01
10. Family income w1	.05	-.04	.05	.00	.00	-.10*	-.12*	-.06	-.05	**1.00**	.52**	.52**
11. Mother education w1	.18**	-.01	-.04	.02	.07	-.13*	-.16*	-.06	-.02	.52**	**1.00**	.62**
12. Father education w1	.10	-.04	.06	.01	.05	-.16**	-.12*	-.15**	.01	.52**	.62**	**1.00**

Note. * $p < .05$, ** $p < .01$.

[a] Mothers' parenting measures are reported below the diagonal while fathers' parenting measures are reported above the diagonal.

Table 14. Correlation Between Parenting Variables, Adolescent Depressive Symptoms, and Covariates at Wave 2 [a]

	1	2	3	4	5	6	7	8	9	10	11	12
Parenting w2												
1. Warmth w2	**1.00**	-.25**	-.46**	.20**	-.03	-.18**	-.17**	-.02	.03	.02	.11	.01
2. Punitiveness w2	-.14*	**1.00**	.07	.10	.21**	.13*	.30**	.06	-.07	.02	.04	.07
3. Non-democratic w2	-.43**	.08	**1.00**	-.19**	.03	.12	.14*	-.03	-.03	.08	-.12	.04
4. Respect w2	.12*	.08	-.06	**1.00**	.57**	-.05	-.06	.02	.02	.01	.06	-.04
5. Support w2	.00	.20**	.08	.57**	**1.00**	.03	.01	-.09	-.01	.10	.10	.02
Teen Depressive Symptoms w2												
6. Mother report w2	-.22**	.15*	.16**	.06	.07	**1.00**	.44**	.22**	.05	-.14*	.00	.09
7. Father report w2	-.16*	.10	.08	-.00	.02	.44**	**1.00**	.19**	.02	.03	-.02	.05
8. Teen report w2	.03	.06	.02	.02	-.04	.22**	.19*	**1.00**	.12*	-.12*	-.03	-.09
Covariates												
9. Child gender	.15*	.01	-.10	.14*	.06	.05	.02	.12*	**1.00**	-.10	-.09	.03
10. Family income w2	.01	.01	-.06	-.11	-.03	-.14*	.03	-.12*	-.10	**1.00**	.56**	.53**
11. Mother education w2	.18**	.01	-.09	.03	.08	.00	-.02	-.03	-.09	.56**	**1.00**	.59**
12. Father education w2	-.08	-.01	-.01	.02	.03	.09	.05	-.09	.03	.53**	.59**	**1.00**

Note. * $p < .05$, ** $p < .01$.

[a] Mothers' parenting measures are reported below the diagonal while fathers' parenting measures are reported above the diagonal.

Table 15. Correlations Between Parental Acculturation, Bicultural Management Difficulty, Parental Depressive Symptoms, Parenting Variables, and Covariates at Wave 1 [a]

	1	2	3	4	5	6	7	8	9	10	11	12	13
Acculturation													
1. Chinese orientation w1	**1.00**	.10	.20**	.01	.17**	.04	-.14**	.12*	.02	.04	-.23**	-.09	-.10
2. American orientation w1	.07	**1.00**	-.29**	-.16**	.16**	-.01	-.23**	.12*	.08	.01	.18**	.30**	.30**
3. Bicultural management difficulty w1	.10*	-.26**	**1.00**	.29**	-.01	.15**	-.00	-.07	-.08	-.09	-.27**	-.32**	-.33**
4. Parental depressive symptoms w1	.00	-.16**	.26**	**1.00**	-.19**	.19**	.08	-.11*	.07	.08	-.20**	-.14**	-.22**
Parenting Practices													
5. Warmth w1	.15**	.22**	-.04	-.24**	**1.00**	-.31**	-.46**	.25**	.05	.13*	.03	.09	.05
6. Punitiveness w1	.04	-.16**	.10*	.19**	-.25**	**1.00**	.18**	-.04	.16**	-.11*	.07	.02	.01
7. Non-democratic w1	-.18**	-.14**	-.02	.07	-.36**	.22**	**1.00**	-.19**	.05	-.12*	.03	-.04	-.06
8. Family obligation-respect w1	.14**	.10*	.03	-.07	.16**	.01	-.04	**1.00**	.49**	.03	.14**	.10	.06
9. Family obligation-support w1	.13*	.20**	-.04	.00	.11*	.02	.06	.52**	**1.00**	.10	.12*	.18**	.12*
Covariates													
10. Child gender w1	.11*	.03	-.05	.09	.09	-.16**	-.10*	-.04	-.06	**1.00**	-.05	-.02	.01
11. Family income w1	-.16**	.30**	-.30**	-.23**	.05	-.04	.05	.00	.00	-.05	**1.00**	.52**	.52**
12. Mother education w1	-.07	.34**	-.30**	-.20**	.18**	-.01	-.04	.02	.07	-.02	.52**	**1.00**	.62**
13. Father education w1	.01	.24**	-.32**	-.16**	.10	-.04	.06	.01	.05	.01	.52**	.62**	**1.00**

Note. * $p < .05$, ** $p < .01$.

[a] Mothers' measures are reported below the diagonal while fathers' measures are reported above the diagonal.

Table 16. Correlations Between Parental Acculturation, Bicultural Management Difficulty, Parental Depressive Symptoms, Parenting Variables, and Covariates at Wave 2 [a]

	1	2	3	4	5	6	7	8	9	10	11	12	13
Acculturation													
1. Chinese orientation w2	**1.00**	-.07	.13*	.09	.02	.01	.08	.15*	.15*	.00	-.21**	-.16*	-.24**
2. American orientation w2	.03	**1.00**	-.13*	-.19**	.19**	-.12*	-.13*	-.02	-.03	-.05	.25**	.28**	.17**
3. Bicultural management difficulty w2	.24**	-.10	**1.00**	.17**	-.04	.04	-.05	.00	-.10	-.02	-.20**	-.20**	-.18**
4. Parental depressive symptoms w2	.08	-.07	.28**	**1.00**	-.17**	.20**	.09	-.02	.11	.04	-.15*	-.07	-.05
Parenting Practices													
5. Warmth w2	.13*	.22**	.12	-.17**	**1.00**	-.25**	-.46**	.20**	-.03	.03	.02	.11	.01
6. Punitiveness w2	.10	-.04	.02	.24**	-.14*	**1.00**	.07	.10	.21**	-.07	.02	.04	.07
7. Non-democratic w2	-.03	-.21**	-.09	.16**	-.43**	.08	**1.00**	-.19**	.03	-.03	.08	-.12	.04
8. Family obligation-respect w2	.09	.07	-.03	.10	.12*	.08	-.06	**1.00**	.57**	.02	.01	.06	-.04
9. Family obligation-support w2	.11	.06	-.12	.06	.00	.20**	.08	.57**	**1.00**	-.01	.10	.10	.02
Covariates													
10. Child gender w2	.03	-.00	.03	.12*	.15*	.01	-.10	.14*	.06	**1.00**	-.10	-.09	.03
11. Family income w2	-.23**	.25**	-.19**	-.20**	.01	.01	-.06	-.11	-.03	-.10	**1.00**	.56**	.53**
12. Mother education w2	-.13*	.38**	-.16**	-.05	.18**	.01	-.09	.03	.08	-.09	.56**	**1.00**	.59**
13. Father education w2	-.28**	.23**	-.20**	-.01	-.08	-.01	-.01	.02	.03	.03	.53**	.59**	**1.00**

Note. * $p < .05$, ** $p < .01$.

[a] Mothers' measures are reported below the diagonal while fathers' measures are reported above the diagonal.

Table 17. Evaluation of Structural Models: Relationships between Parenting Behaviors and Adolescent Depressive Symptoms

Model	χ^2 (df)	CFI	TLI	RMSEA	SRMR	ß for the path linking parenting to adolescent depressive symptoms	R square of adolescent depressive symptoms
Wave 1 Mother							
Parental Warmth	120.35***(67)	.96	.95	.04	.04	-.29*	13
Punitive Parenting	115.85***(67)	.96	.95	.04	.04	.23*	.11
Non-democratic Parenting	118.51***(67)	.96	.95	.04	.04	.19*	.09
Family Obligation	119.60**(76)	.97	.96	.04	.04		.13
Respect						-.30*	
Support						.10	
Wave 1 Father							
Parental Warmth	137.18***(67)	.95	.93	.05	.05	-.24*	.14
Punitive Parenting	120.20***(67)	.96	.95	.04	.04	.27*	.16
Non-democratic Parenting	135.82***(67)	.95	.93	.05	.05	.13	.10
Family Obligation							.13
Respect	131.03***(76)	.96	.95	.04	.04	-.27*	
Support	131.03***(76)	.96	.95	.04	.04	.14	
Wave 2 Mother							
Parental Warmth	115.01***(68)	.96	.95	.04	.05	-.29*	.09
Punitive Parenting	112.82***(68)	.96	.95	.04	.04	.18*	.05
Non-democratic Parenting	114.54***(68)	.96	.95	.04	.05	.19*	.05
Family Obligation	114.87**(77)	.97	.96	.03	.04		.02
Respect						-.01	
Support						.06	
Wave 2 Father							
Parental Warmth	99.50**(68)	.97	.97	.03	.05	-.26*	.11
Punitive Parenting	104.74**(68)	.97	.96	.04	.05	.31	.11
Non-democratic Parenting	95.30*(68)	.98	.97	.03	.05	.20	.08
Family Obligation	110.76**(76)	.97	.97	.03	.05		.05
Respect						-.12	
Support						.05	

Note. * $p < .05$, ** $p < .01$, *** $p < .001$. Child gender, parental education, and family income are controlled.

Table 18. Evaluation of Structural Models Testing the Relationships between Wave 1 Parental Acculturation Variables and Wave 2 Parenting Behaviors

Model	χ^2 (df)	CFI	TLI	RMSEA	SRMR	ß for the direct path linking w1 acculturation to w2 parenting	Significant indirect path linking w1 acculturation, bicultural difficulty, depressed mood, to w2 parenting	R square of wave 2 parenting measures
Mother								
Parental Warmth	17.73(17)	1.00	1.00	.01	.02	ns	ns	.04
Punitive Parenting	22.00(17)	.99	.98	.03	.02	ns	Mother: w1 American orientation->w1 bicultural difficulty->w1 depressed mood -->w2 punitive	.08
Non-democratic Parenting	22.86(17)	.99	.98	.03	.03	ns	ns	.04
Family Obligation								
Respect	17.03(17)	1.00	1.00	.00	.02	ns	ns	.04
Father								
Parental Warmth	33.83**(17)	.97	.94	.05	.03	w1 American orientation to w2 warmth: .16*	ns	.05
Punitive Parenting	38.86**(17)	.97	.91	.05	.03	ns	ns	.02
Family Obligation								
Respect	32.28*(17)	.98	.94	.05	.03	ns	ns	.02

Note. * $p < .05$, ** $p < .01$, *** $p < .001$. Child gender, parental education at wave 1, and family income at wave 1 are controlled.

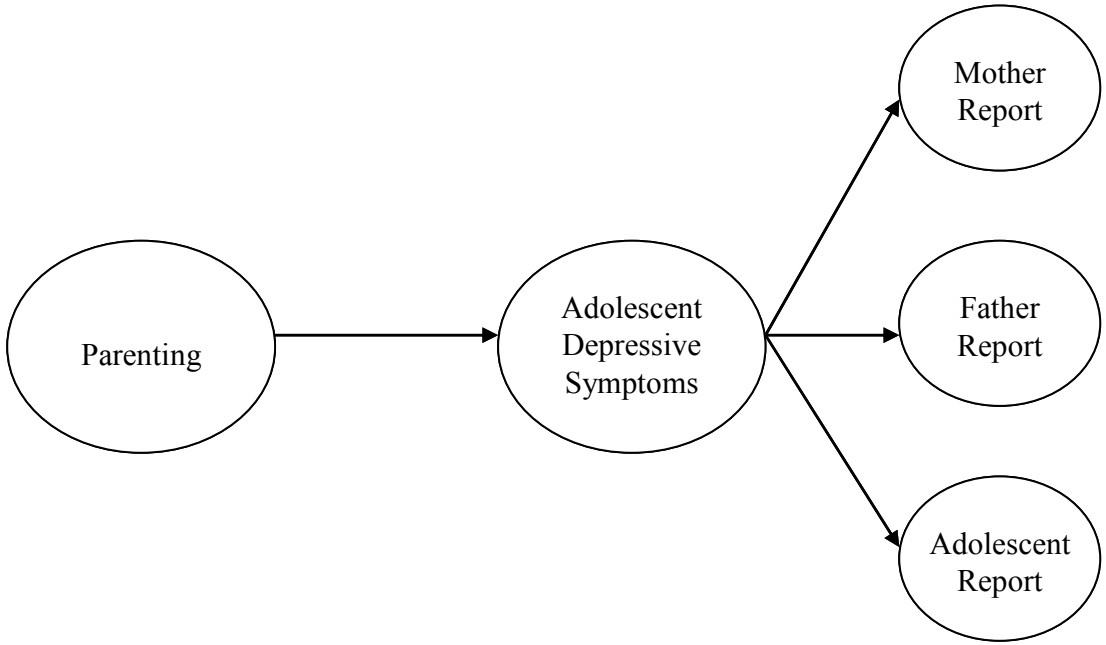


Figure 1. Conceptual Model Linking Parenting Practices to Adolescent Depressive Symptoms.

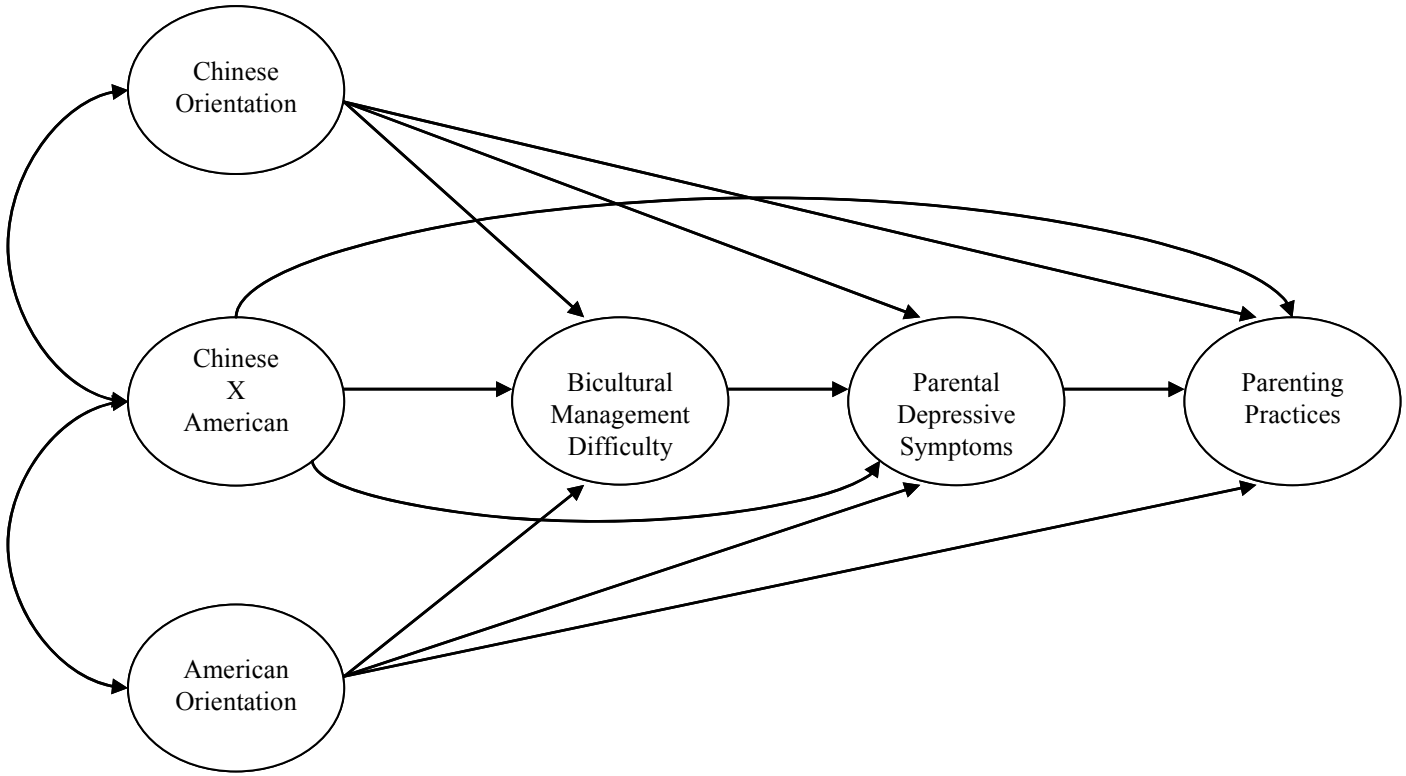


Figure 2. Conceptual Concurrent Model Linking Parental Acculturation to Parenting Practices.

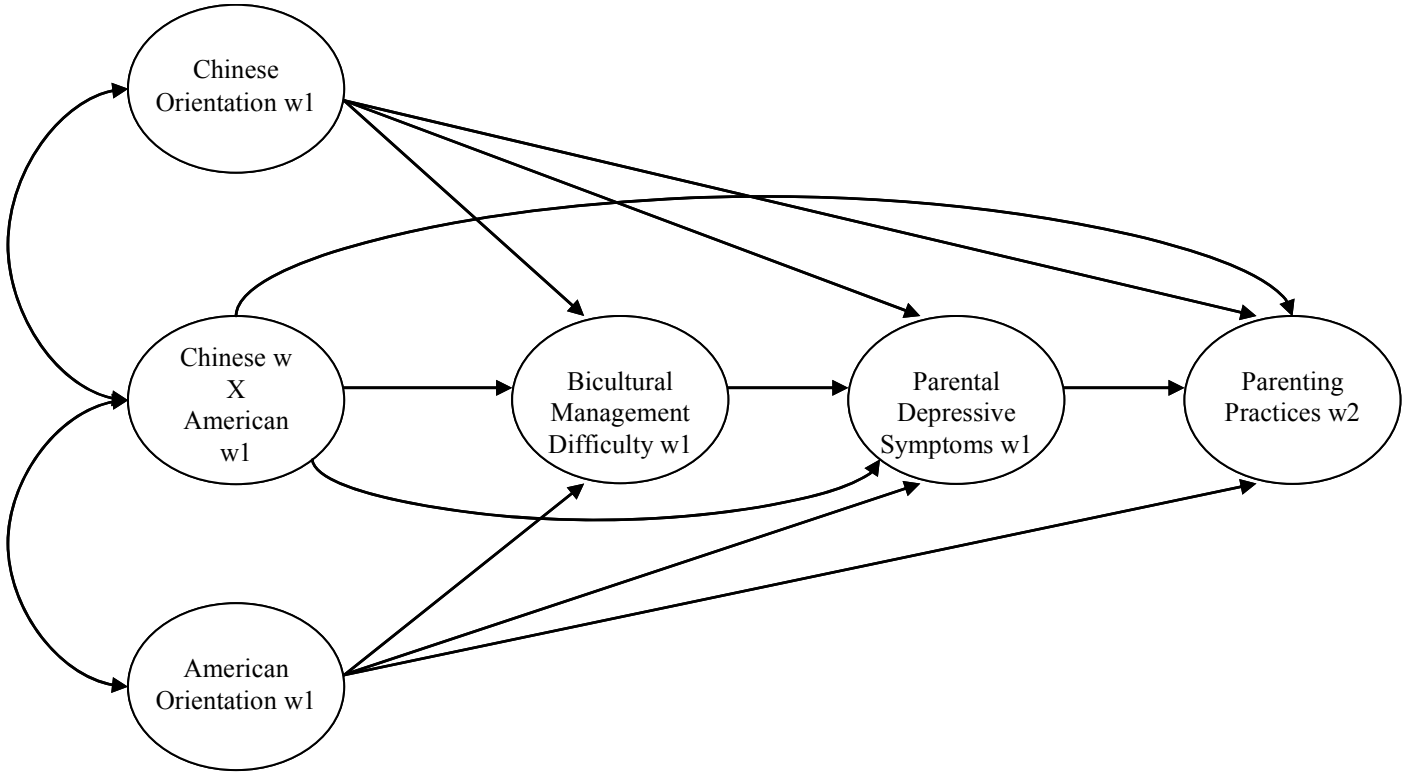


Figure 3. Conceptual Model Linking Parental Acculturation at Wave 1 to Parenting Practices at Wave 2.

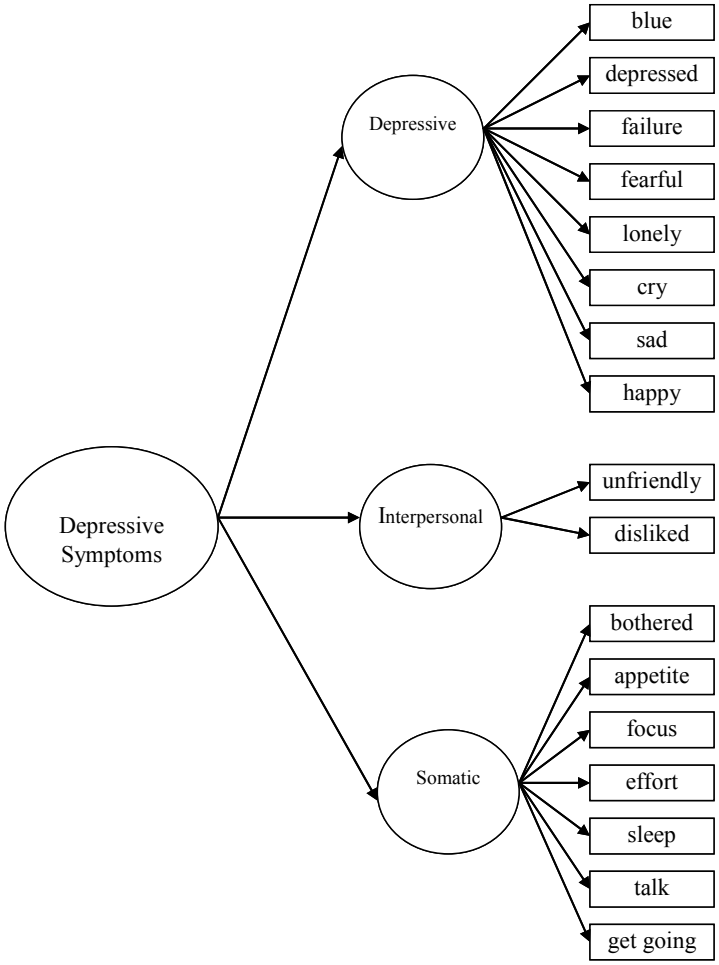


Figure 4. Measurement Model of Parental Depressive Symptoms by Parental Self Report or Adolescent Depressive Symptoms by Parental Report.

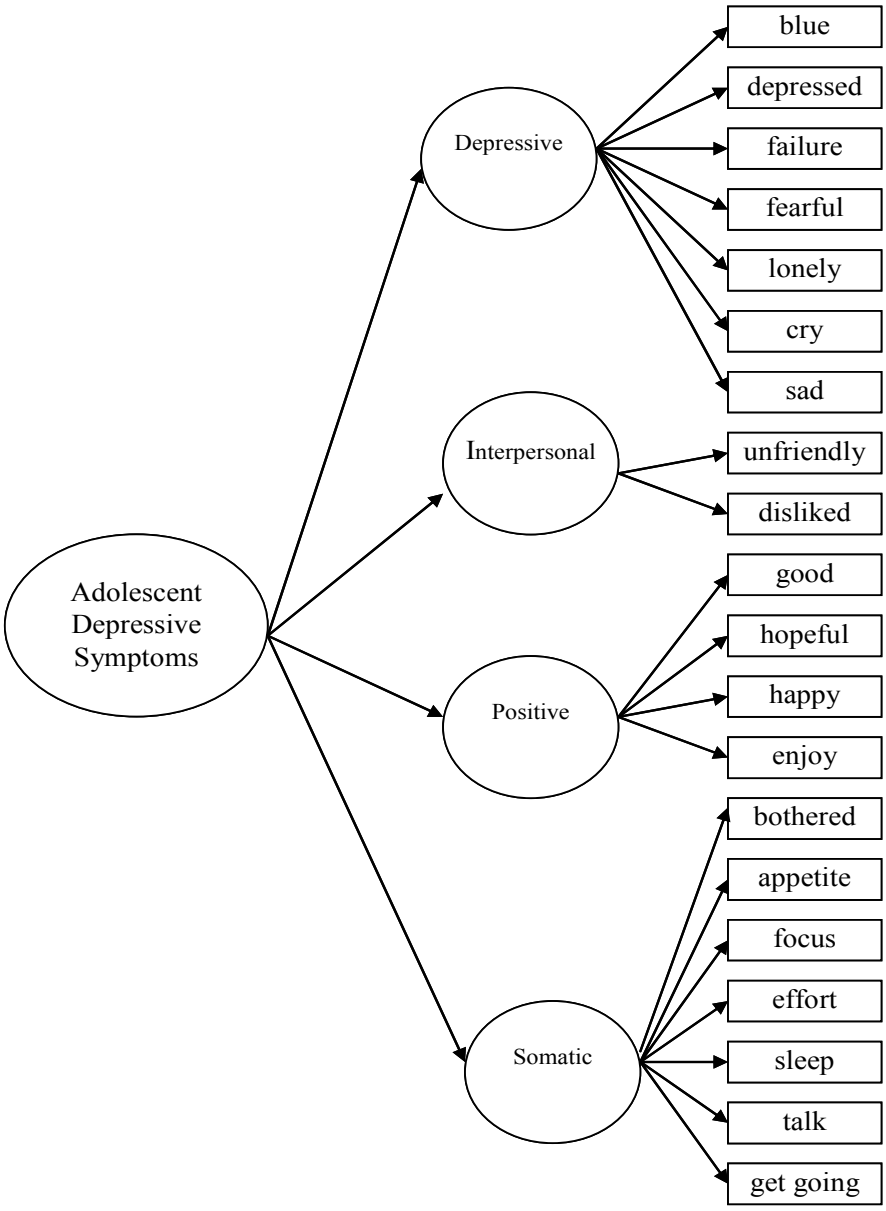


Figure 5. Measurement Model of Adolescent Depressive Symptoms by Adolescent Self Report.

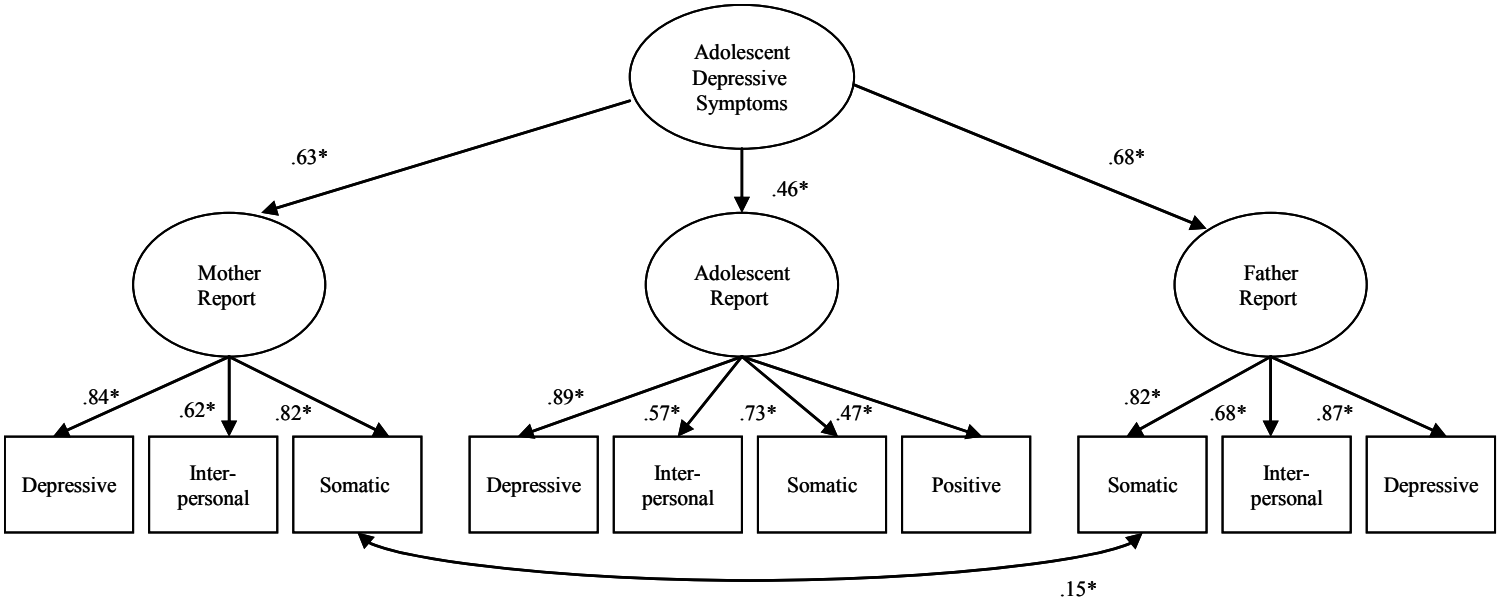


Figure 6. Testing Multi-rater Measurement Model of Adolescent Depressive Symptoms at Wave 1.

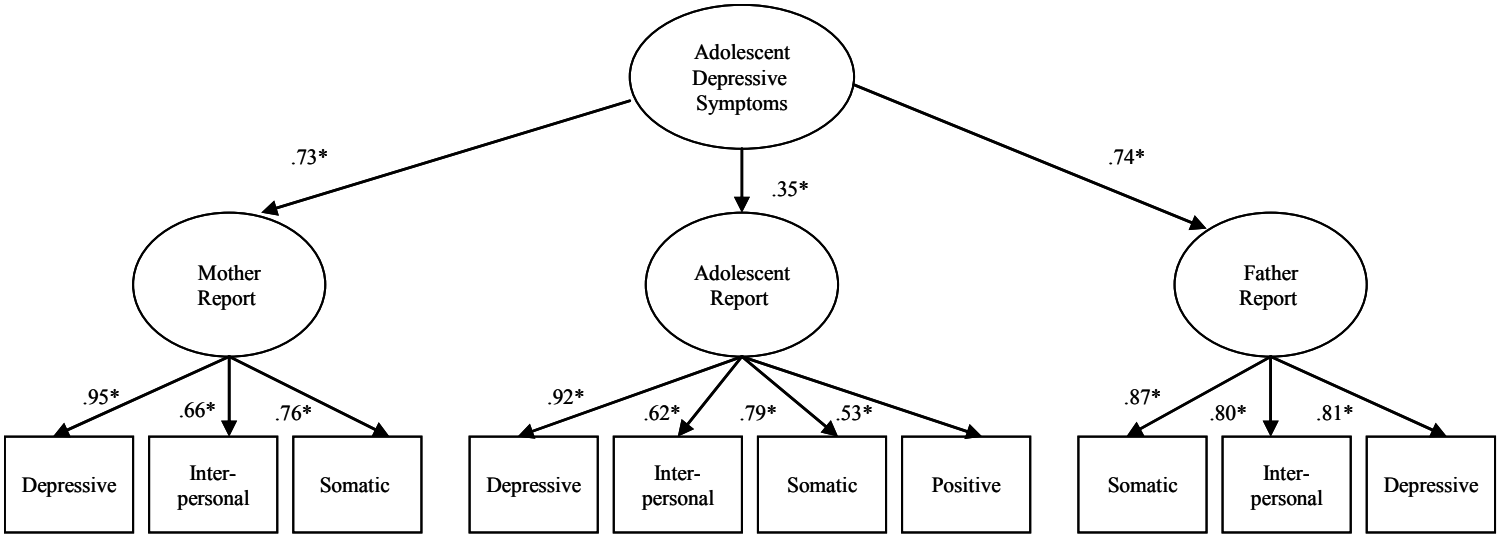


Figure 7. Testing Multi-rater Measurement Model of Adolescent Depressive Symptoms at Wave 2.

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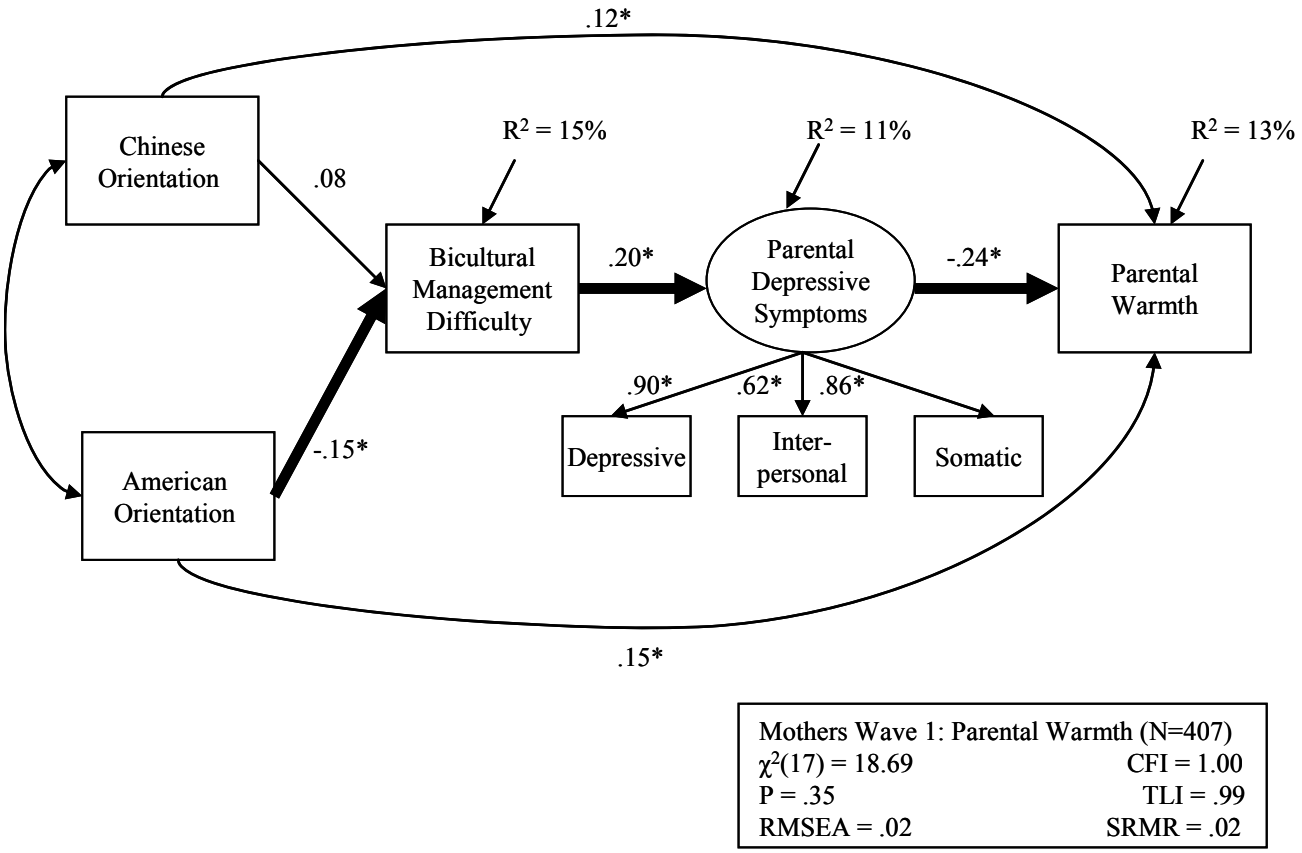

Figure 8. Cross-sectional Statistical Model Linking Mothers' Acculturation and Mothers' Warmth within Wave 1.

Note. The Bold Line Represents Significant Indirect Effect, $p < .05$.

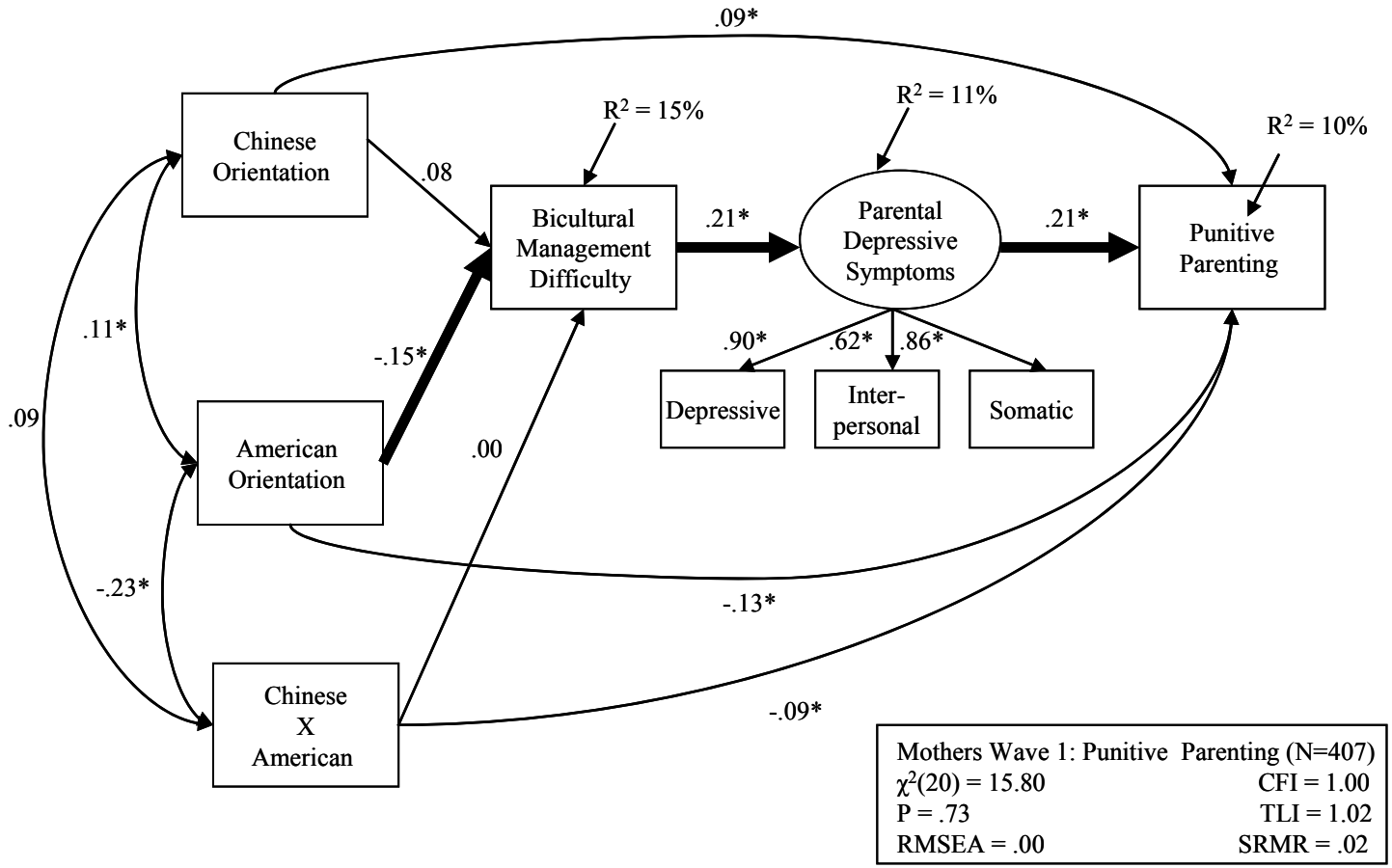

Figure 9. Cross-sectional Statistical Model Linking Mothers' Acculturation and Mothers' Punitive Parenting within Wave 1.

Note. The Bold Line Represents Significant Indirect Effect, $p < .05$.

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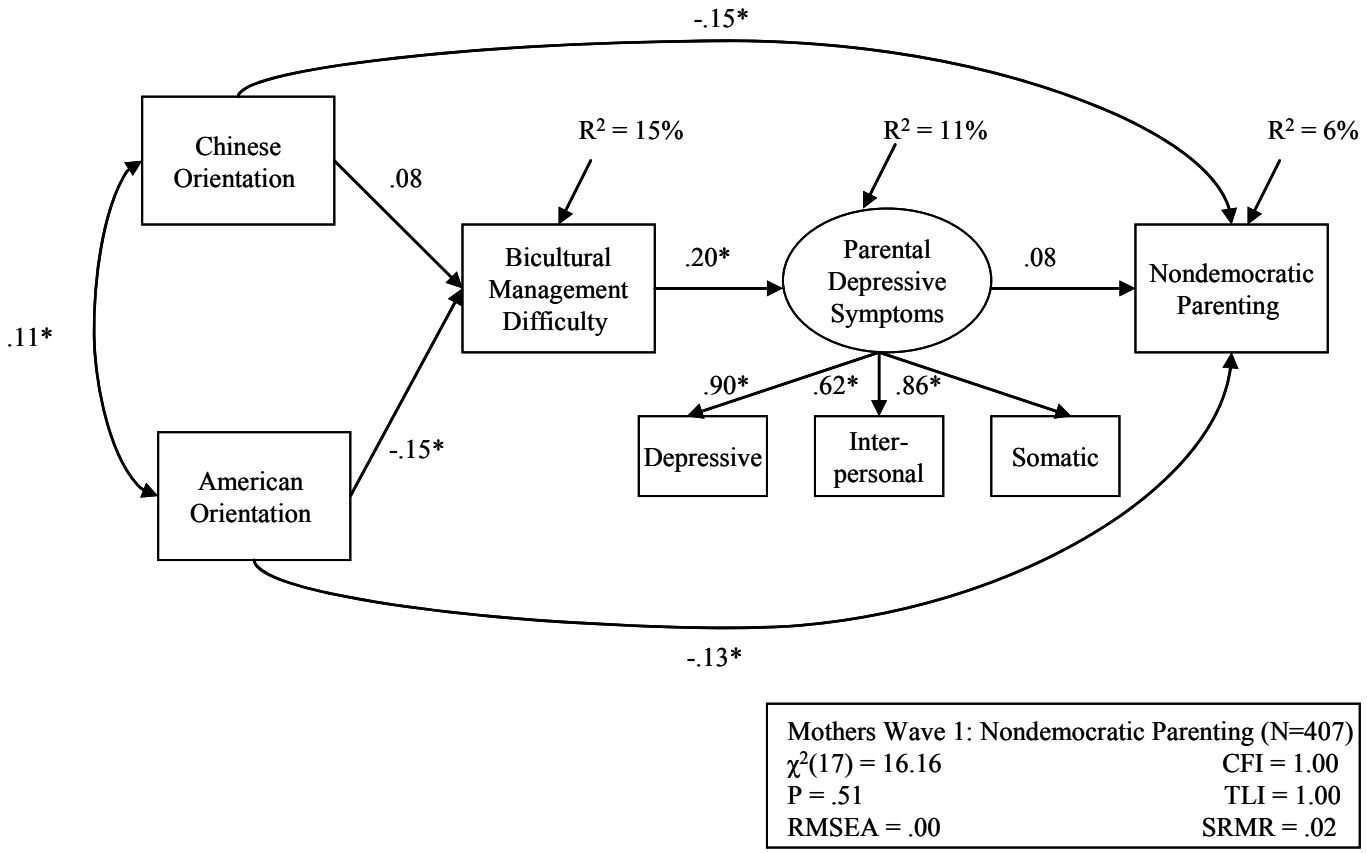

Figure 10. Cross-sectional Statistical Model Linking Mothers' Acculturation and Mothers' Nondemocratic Parenting within Wave 1.

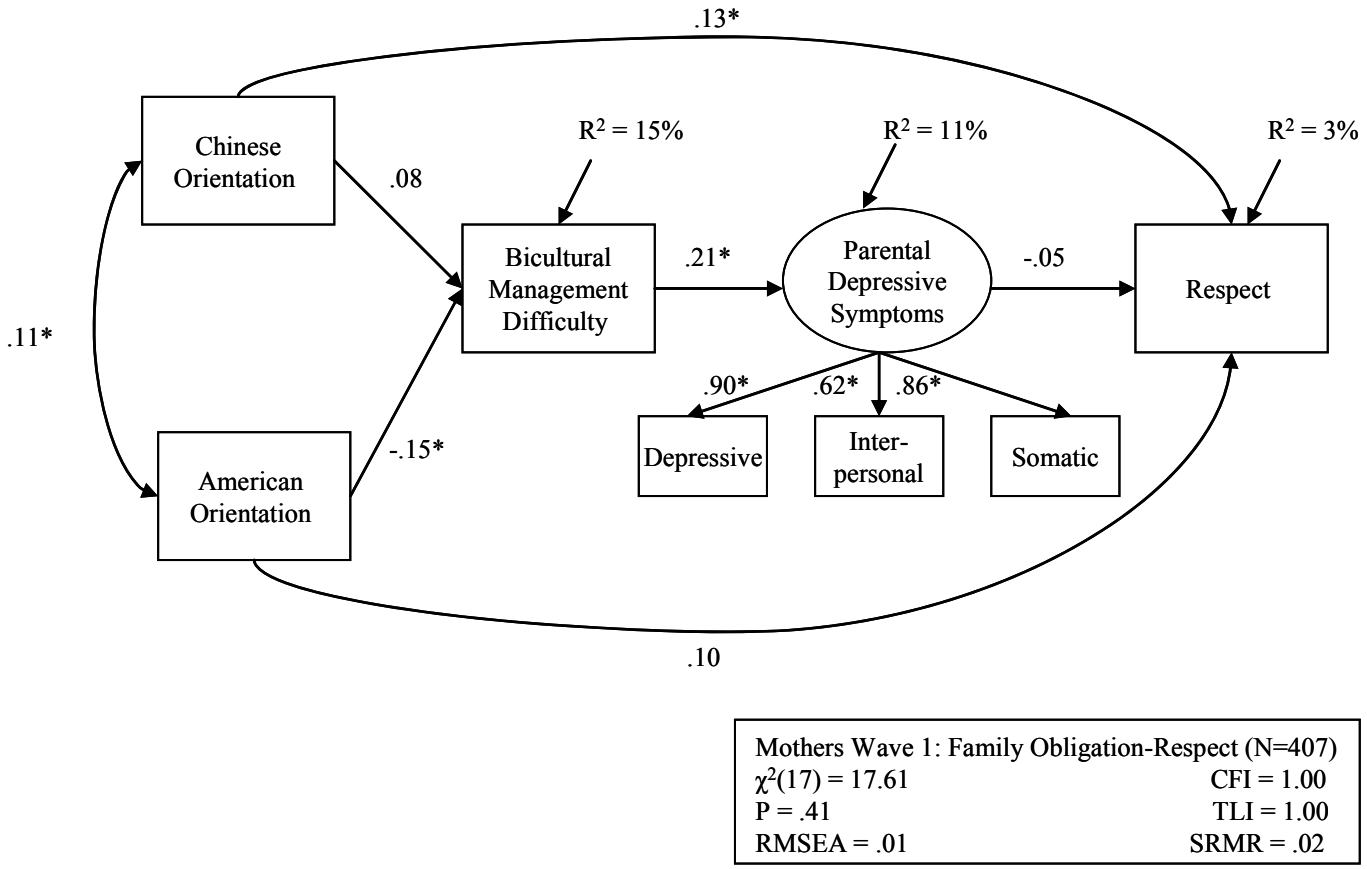

Figure 11. Cross-sectional Statistical Model Linking Mothers' Acculturation and Mothers' Endorsement of Family Obligation within Wave 1.

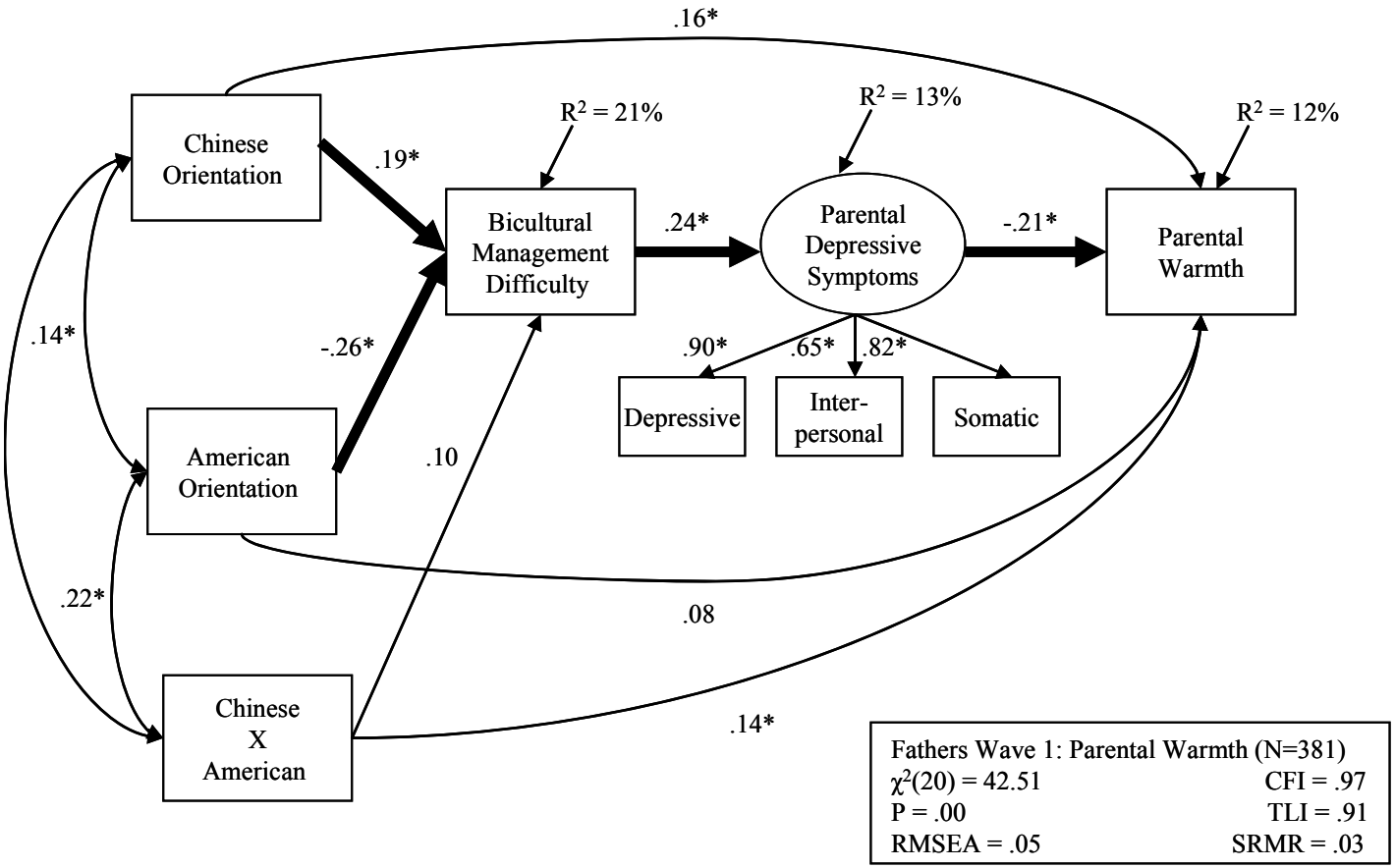

Figure 12. Cross-sectional Statistical Model Linking Fathers' Acculturation and Fathers' Warmth within Wave 1.

Note. The Bold Line Represents Significant Indirect Effect, $p < .05$.

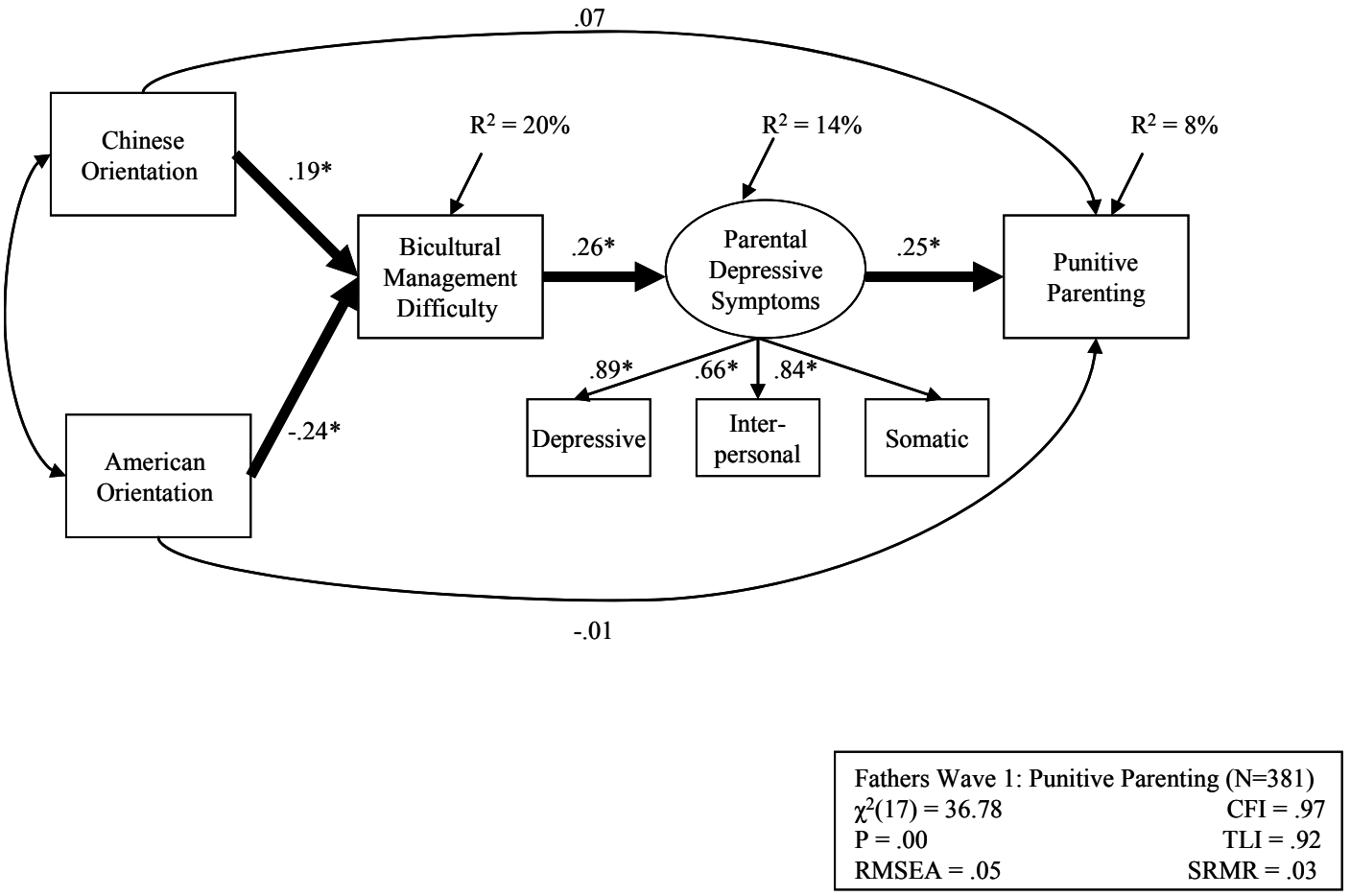

Figure 13. Cross-sectional Statistical Model Linking Fathers' Acculturation and Fathers' Punitive Parenting within Wave 1.

Note. The Bold Line Represents Significant Indirect Effect, $p < .05$.

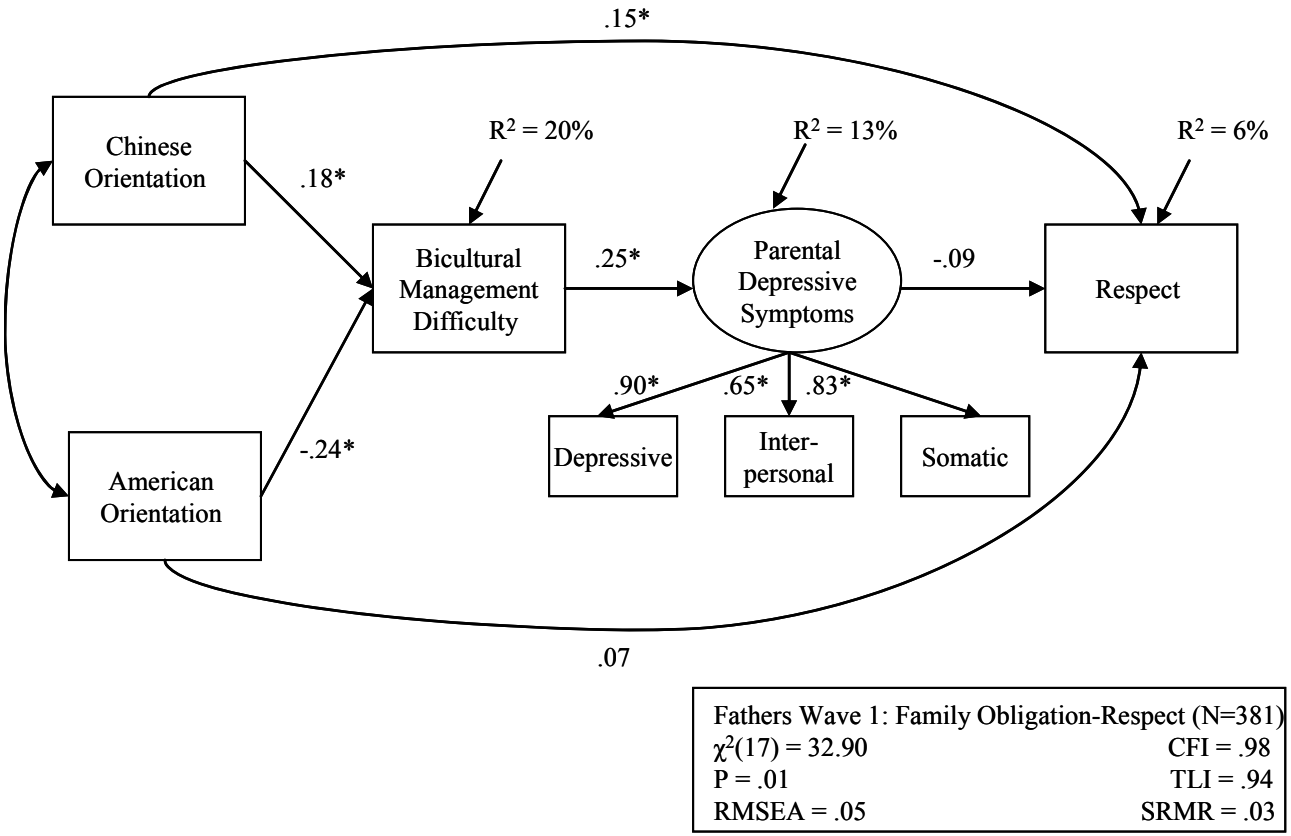

Figure 14. Cross-sectional Statistical Model Linking Fathers' Acculturation and Fathers' Endorsement of Family Obligation within Wave 1.

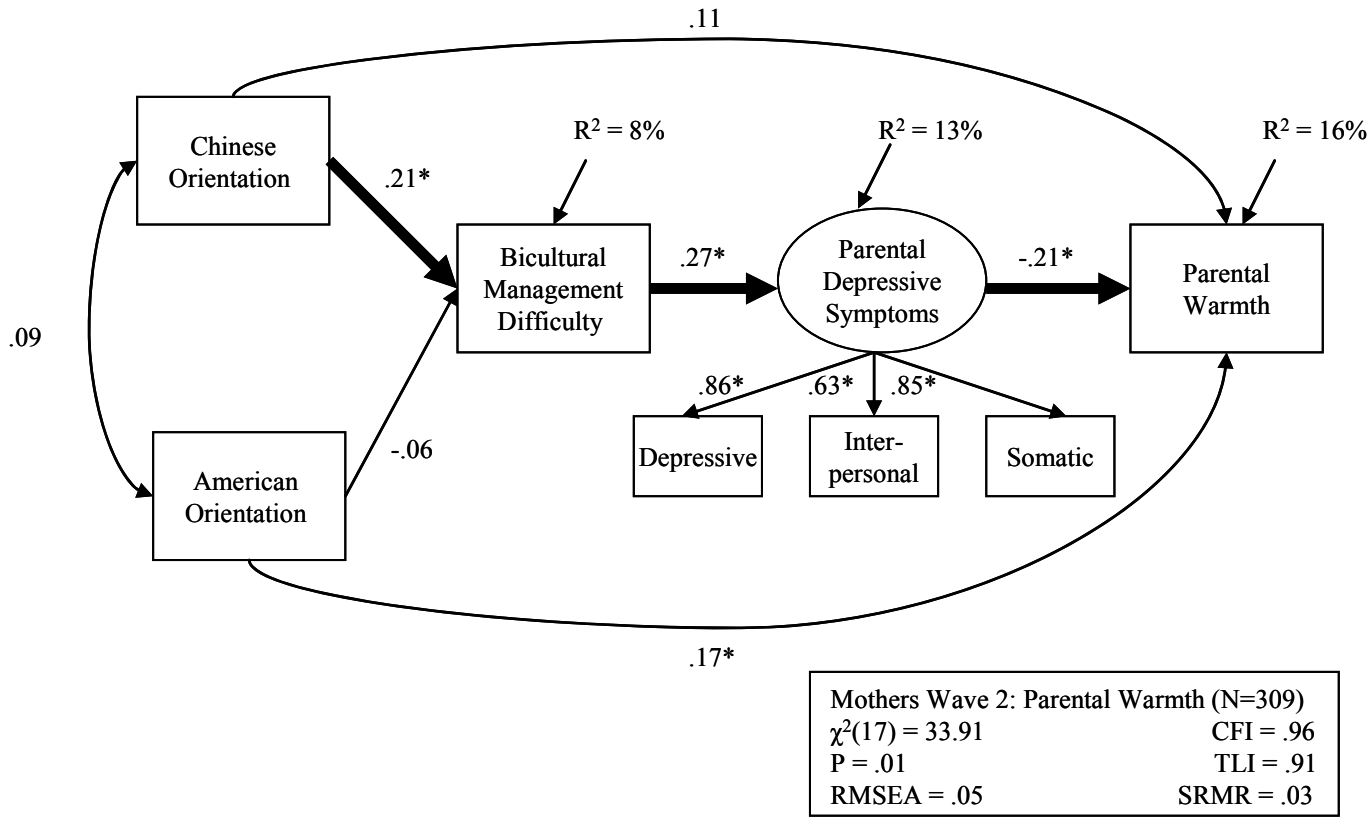

Figure 15. Cross-sectional Statistical Model Linking Mothers' Acculturation and Mothers' Warmth within Wave 2.

Note. The Bold Line Represents Significant Indirect Effect, $p < .05$.

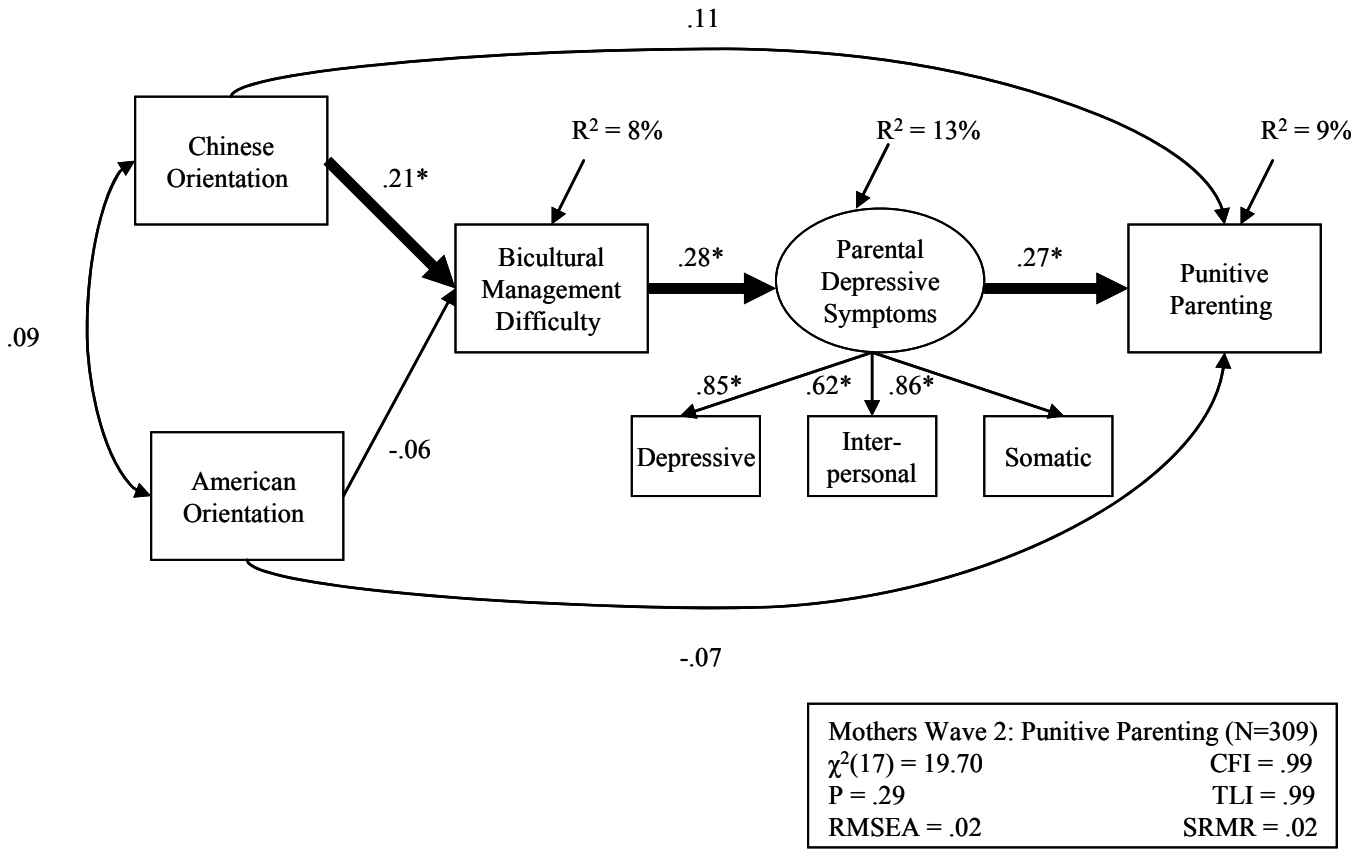

Figure 16. Cross-sectional Statistical Model Linking Mothers' Acculturation and Mothers' Punitive Parenting within Wave 2.

Note. The Bold Line Represents Significant Indirect Effect, $p < .05$.

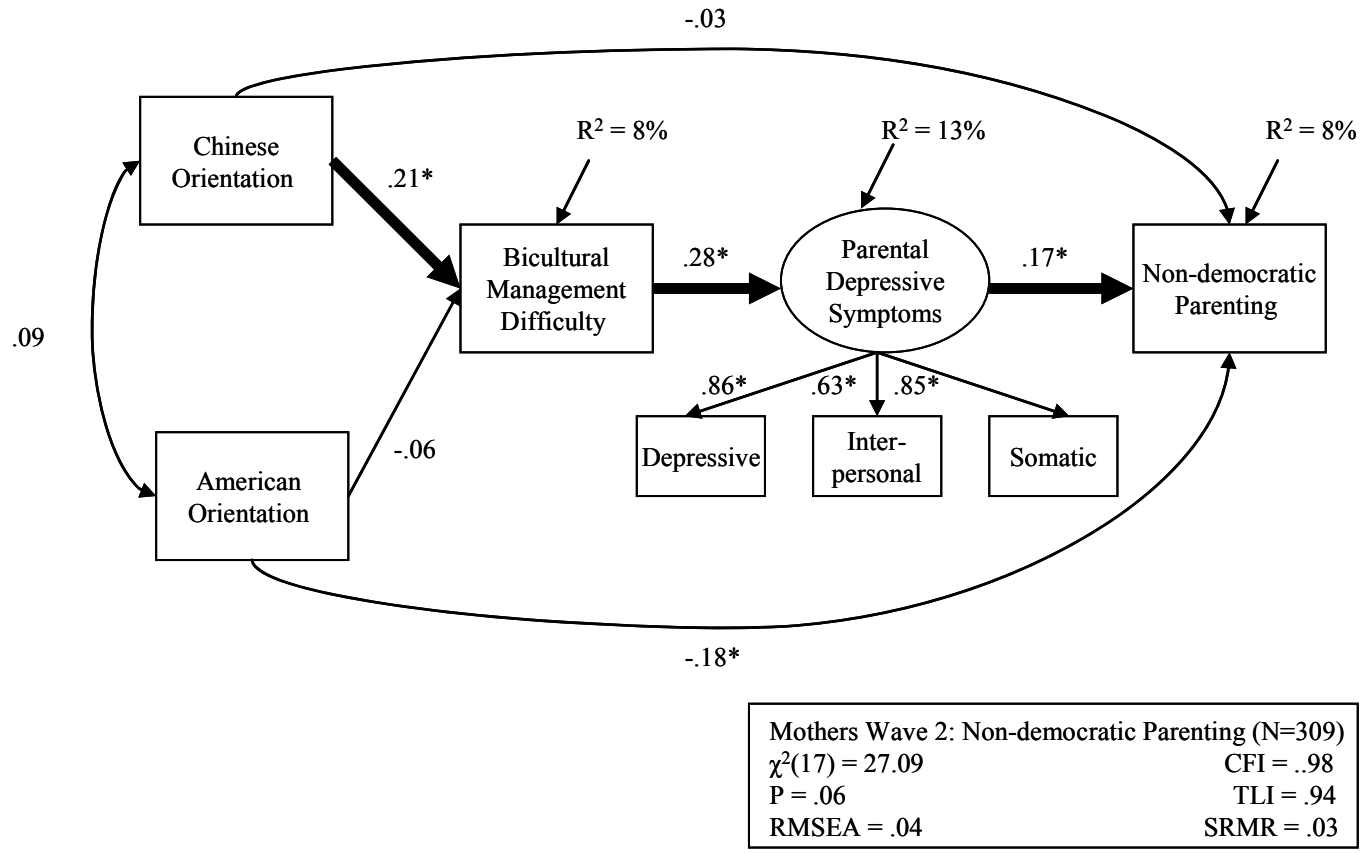

Figure 17. Cross-sectional Statistical Model Linking Mothers' Acculturation and Non-democratic Parenting within Wave 2.

Note. The Bold Line Represents Significant Indirect Effect, $p < .05$.

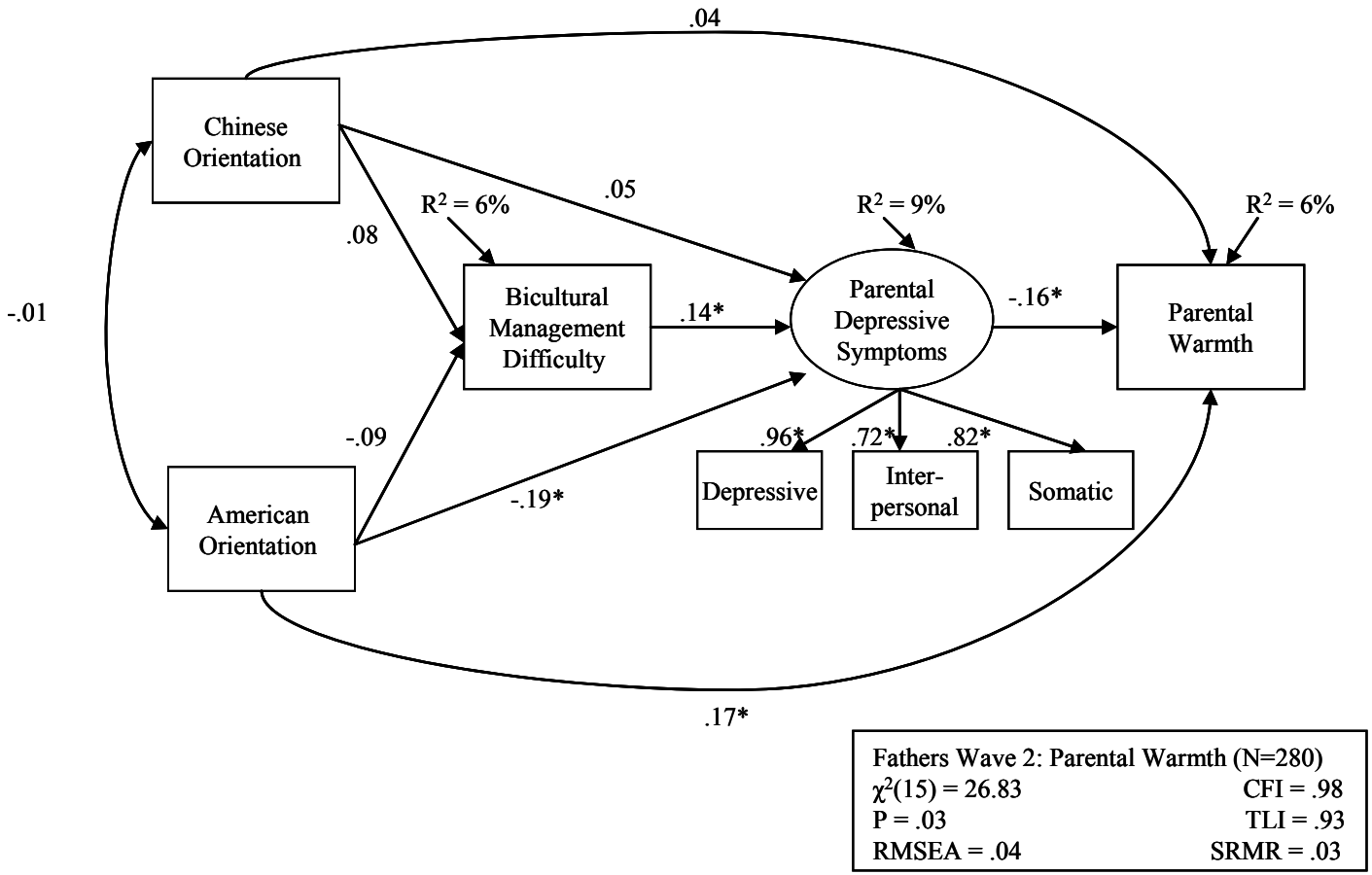

Figure 18. Cross-sectional Statistical Model Linking Fathers' Acculturation Fathers' Warmth within Wave 2.

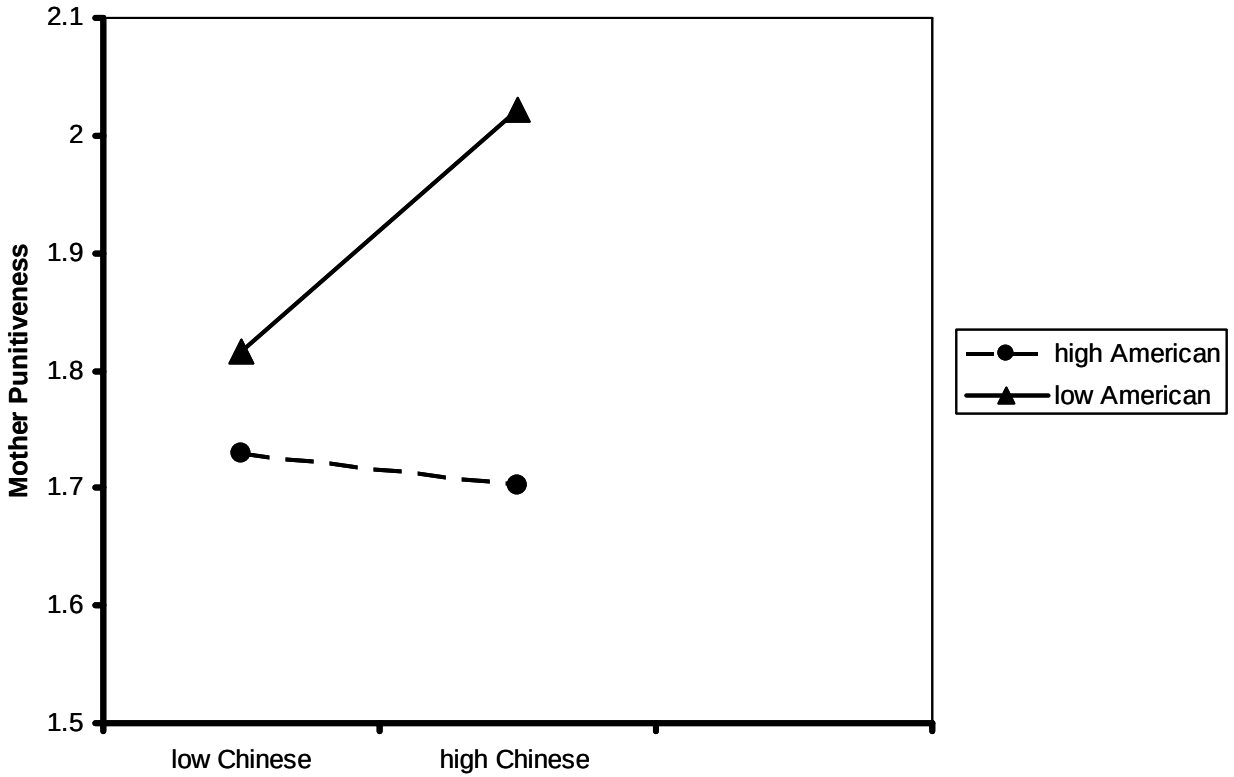

Figure 19. Interaction effect between Mothers' Chinese and American Orientations on Mothers' Punitive Parenting within Wave 1.

Note. High = 1 standard deviation above the mean; Low = 1 standard deviation below the mean.

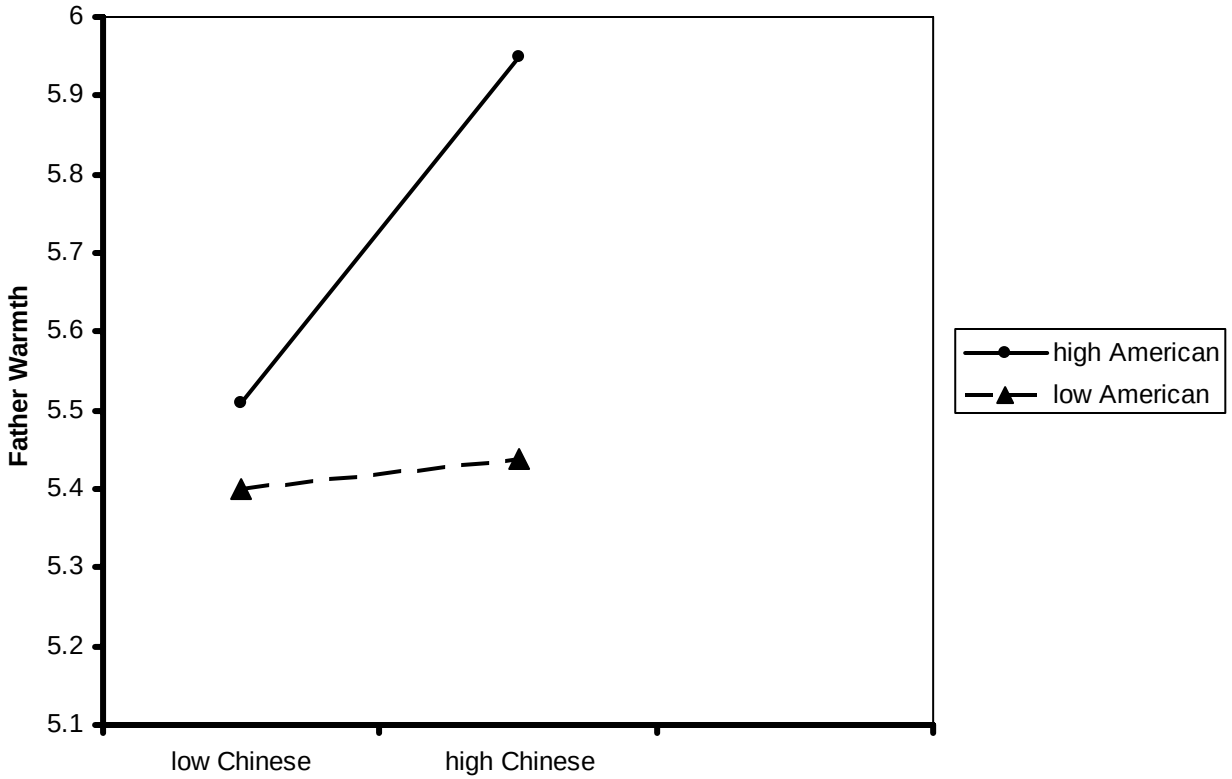

Figure 20. Interaction effect between Fathers' Chinese and American Orientations on Fathers' Warmth within Wave 1.

Note. High = 1standard deviation above the mean; Low = 1 standard deviation below the mean.

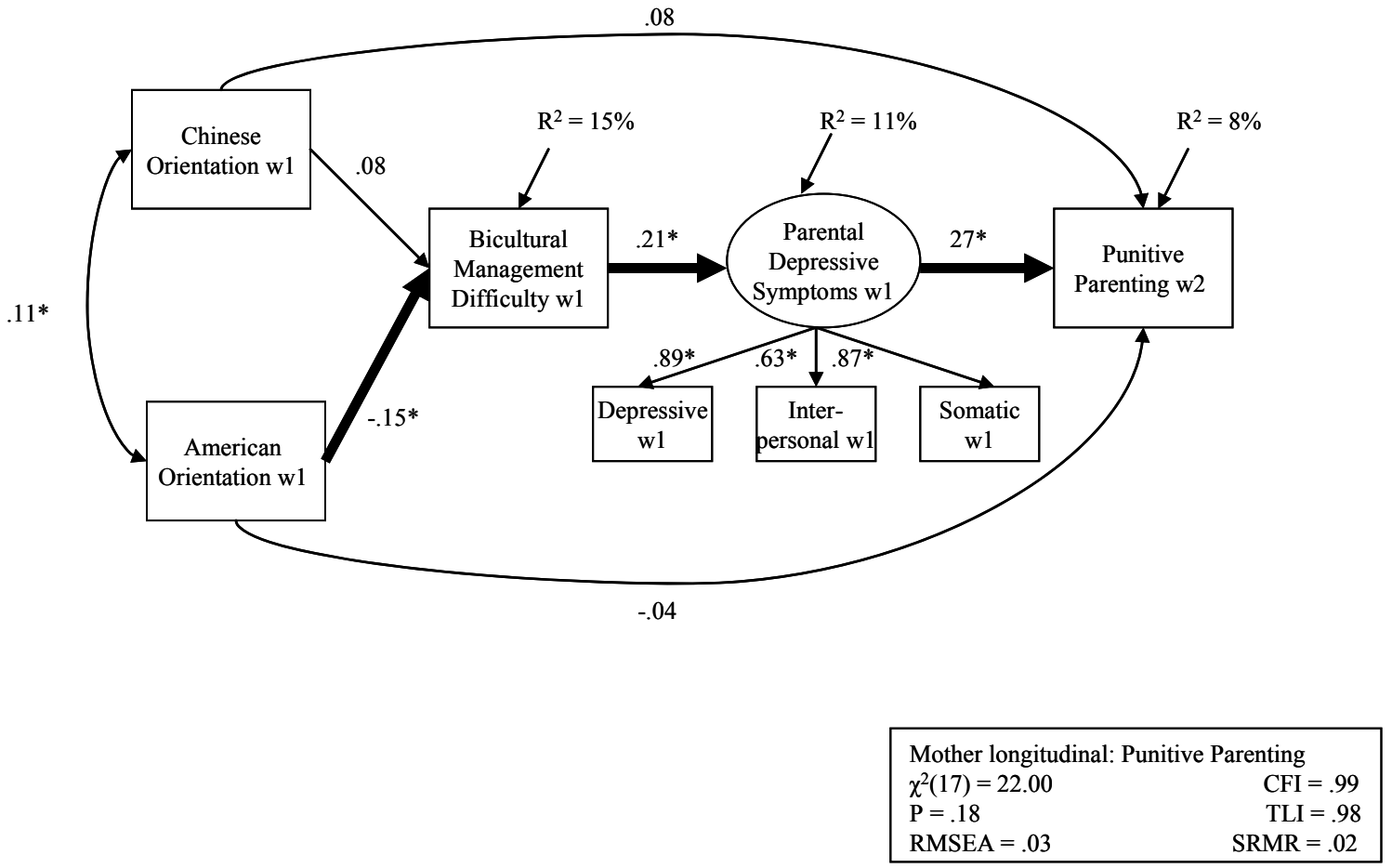

Figure 21. Statistical Model Linking Mothers' Acculturation at Wave 1 to Mothers' Punitive Parenting at Wave 2.

Note. Bold Line Represents Significant Indirect Effect, $p < .05$.

APPENDIX A

Acculturation Scale

1= Strongly Disagree 2 = Disagree 3 = Neutral/Depends 4 = Agree 5 = Strongly Agree

1. I often follow Chinese cultural traditions
2. I often follow mainstream American cultural traditions (e.g., celebrate holidays)
3. I am willing to marry a Chinese person
4. I am willing to marry an American person
5. I enjoy social activities with Chinese people
6. I enjoy social activities with Americans
7. I am comfortable working with Chinese people
8. I am comfortable working with Americans
9. I enjoy Chinese entertainment (e.g., movies, music)
10. I enjoy American entertainment (e.g., movies, music)
11. I often behave in ways that are typical of the Chinese culture
12. I often behave in ways that are typical of the American culture
13. It is important for me to maintain or develop Chinese cultural practices
14. It is important for me to maintain or develop mainstream American cultural practices
15. I believe in Chinese cultural values
16. I believe in mainstream American values
17. I enjoy typical Chinese jokes and humor
18. I enjoy typical American jokes and humor
19. I am interested in having Chinese friends
20. I am interested in having American friends

Bicultural Management Difficulty Scale

How often do you feel this way about being Chinese or American?

1=Never 2=Rarely 3=Sometimes 4=Often 5=Always

1. It is difficult to balance two cultures (Chinese and American cultures)
2. I don't like having to choose between being Chinese or being American
3. It is difficult to know when I need to be more Chinese or American in a certain situation

APPENDIX B

Parental Warmth Scale

During the past month, when you and the target child has spent time talking or doing things together, how often did you…

1=Never 2=Almost Never 3=Not Often 4=About Half the Time 5=Fairly Often 6=Almost Always 7=Always

1. Act loving, affectionate, and caring toward him/her
2. Let him/her now that you appreciate him, his ideas, or the things he does
3. Help him/her do something that was important to him/her
5. Listen carefully to his/her point-of-view (what s/he thinks)
7. Let him/her know you really care about him/her
10. Ask for his/her opinion about an important matter
11. Have a good laugh with him/her about something that was funny
13. Act supportive and understanding towards him/her

Parental Control

How often do you behave this way towards the target child?

1=Never 2=Rarely 3=Sometimes 4=Often 5=Always

1. I punish by taking privileges (things the child likes to do) away from my child with little or no explanation
2. I take my child's desire into account before asking him/her to do something

3. I discipline my child first and ask questions later

4. I encourage my child to freely express himself/herself even she s/he disagrees with me

5. I use threats as punishment with little or no explanation

6. I take into account my child's preferences in making plans for the family

7. When my child asks why s/he has to follow my rules, I state: because I said so, or because I am your parent and I want you to

8. I allow my child to give input into family rules

Family Obligation

In general, how important is it to you that the target child…

1=Not At All Important 3=Somewhat Important 5=Very Important

1. Treats you with respect

2. Follows your advice about choosing friends

3. Does well for the sake of the family

4. Follows your advice about his/her future

5. Makes sacrifices (give up what s/he wants to do) for the family

6. Spends time at home with the family

7. Runs errands that the family needs done

8. Helps out around the house

9. Eats meals with the family

10. Helps you financially in the future when s/he gets older

11. Lives at home with you until he/she is married

12. Lives with you when you get older

Appendix C

Depressive Symptoms

Please circle the number for each statement which best describes how often you felt or behaved this way during the past week.

During the past week….

0=Rarely or none of the time (Less than 1 day); 1=Some or a little of the time (1-2 days); 2=A lot of the time (3-4 days); 3=Most or all of the time (5-7 days)

1. I was bothered by things usually not bothered me
2. I did not feel like eating; my appetite was poor
3. I felt that I could not shake off the blues (feeling down or bad) even with help from family or friends
4. I felt that I was just as good as other people
5. I had trouble keeping the mind focused on what one was doing
6. I felt depressed
7. I felt everything was an effort (hard to do)
8. I felt hopeful about the future
9. I thought life had been a failure
10. I felt fearful
11. My sleep was restless (could not sleep well)
12. I was happy
13. I talked less than usual
14. I felt lonely
15. I felt people were unfriendly

16. I enjoyed life
17. I had crying spells; cried
18. I felt sad
19. I felt disliked by people
20. I could not get "going" (get oneself to do things)

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